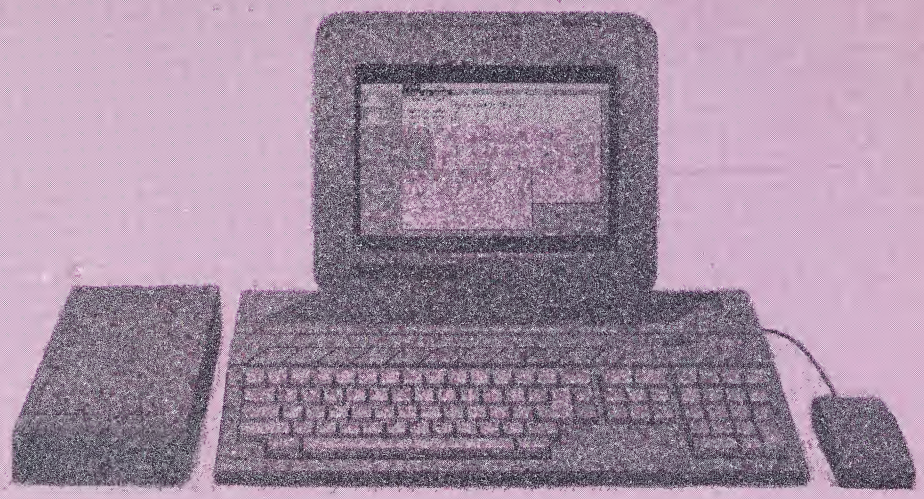
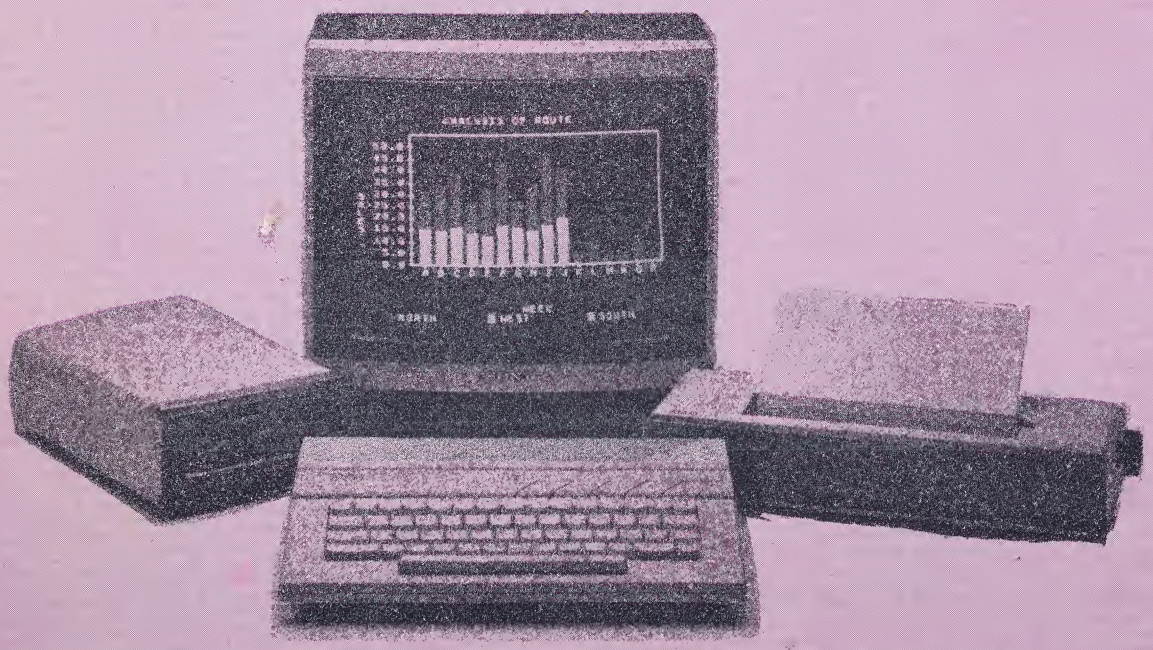
$3.00

Current Notes

Vol. 8 No. 3 April 1988

In This Issue:

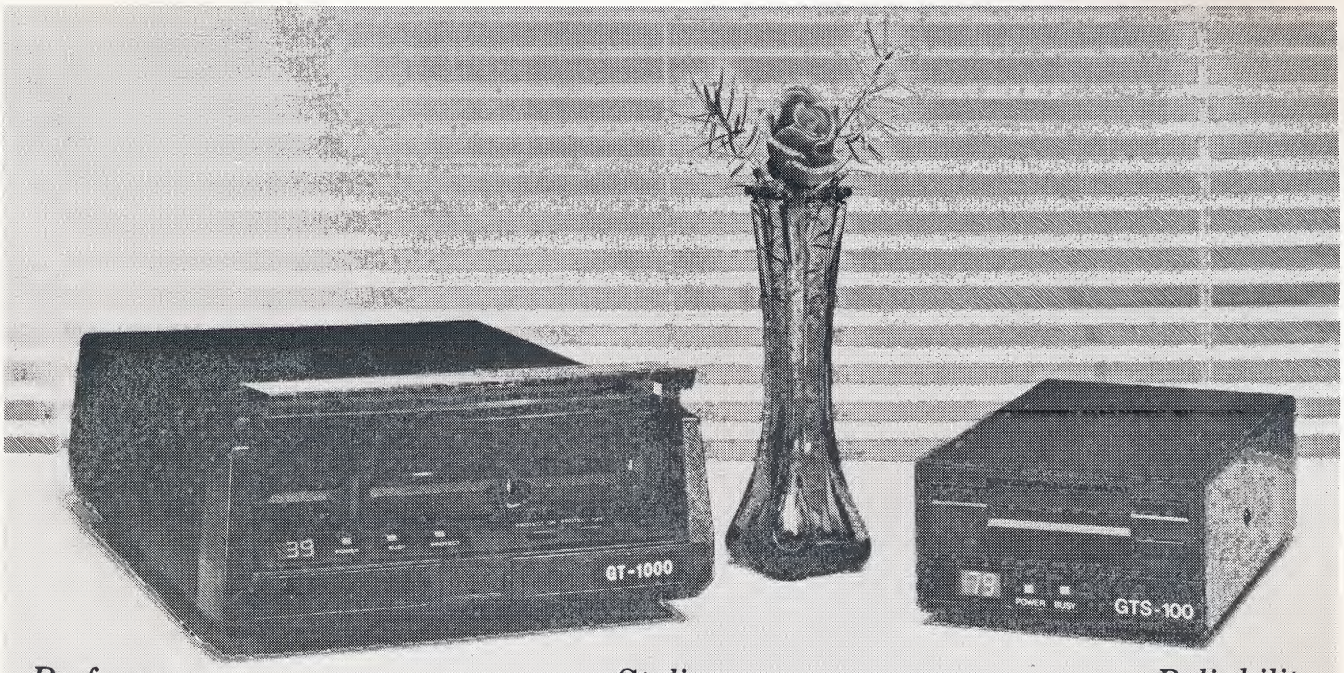




Your Monitor on the World of Atari

CN 803

Disk Drives that are Setting new Standards for ST Enhancements



Performance *Styling* *Reliability*

- Introducing the 5¼" Disk Drive for the Atari ST Computer Systems.
- The smoked glass dust cover protects the GT's front loading front end. Preventing both dust and misguided fingers.
- The GT's Accutouch buttons and LED lights provide absolute feedback. Giving you positive assurance that data integrity has been preserved.
- When the GT's Protect LED is lit, your drive will not be able to write on diskettes. Electronically or mechanically. Protecting, you and your program from "Driver Error"
- The GT-1000 comes with an external power supply and is available in either 40 Track, 360 k. capacity or 80 Track 720 k. capacity. (Optional)

The all new 1988 GT disk drives.

- The GTS-100 is sleek and perfectly proportioned. Eye catching. Distinctively European Gran Styled.
- The front panel display, track readouts. Optimizing your concentration. Eliminating doubt and second guessing.
- The busy LED notifies when your ST is using the GTS-100. And it also doubles as a warning not to remove your diskette or power-off your system while it is lit.
- The 3½" Diskette transport has been equipped with the *GTS Cruise Control* head positioning mechanism – the lowest friction, highest accuracy positioner available.
- The GTS is dual sided, double density floppy disk drive with a 720 k formatted storage capacity.
- Comfortable. Impressive. Friendly. Three excellent reasons to go see and test drive the new GTS-100 at your ST dealer today.

Future
SYSTEMS, INC.

SERVICE *VALUE* *QUALITY*

ATARI ST is a trademark of ATARI Corp.

For dealer information call: (818) 407-1647

GTS-100 & GT-1000 is a trademark of & is manufactured by F.S.I., 21634 Lassen, Chatsworth, CA 91311

CURRENT NOTES (ISSN 8750-1937) is published monthly (excluding Jan and Aug) by Current Notes Inc, 122 N. Johnson Rd., Sterling, VA 22170. (703) 450-4761. Subscriptions are $20 per year ($36/2 years). Second-class postage paid at Sterling, VA 22170.

POSTMASTER: Send address changes to: Current Notes, Inc. 122 N. Johnson Rd., Sterling, VA 22170

Publisher: Joe Waters, 122 N. Johnson Road, Sterling, VA 22170. (703) 450-4761.
ST Editor: Frank Sommers, 4624 Langdrum Lane, Chevy Chase, MD 20815 (301) 656-0719.
XE Editor: Len Poggiali, 300 Stafford Ave, Syracuse, NY 13206 (315) 437-2456.

Submissions of articles or review copies and press releases of products should be sent directly to the appropriate editor. Deadline date for articles is the 10th of the month.

Back Issues: A limited number of back issues are available. 1985 ($1): Jul, Sep, Oct, Nov, Dec; 1986 ($1.50) Feb, Apr, May, Jun, Jul, Sep, Oct, Nov, Dec; 1987 ($2) Feb, Mar, Apr, May, Jun, Jul, Sep, Oct, Nov, Dec. 1988 ($2.50) Feb, Apr

Table of Contents

APRIL, 1988 VOL. 8, NO. 3

Special Features

CN Columns

Product Reviews

GUEST EDITORIAL

By Darek Mihocha

I WANT TOS/2!! A FANTASY

[Darek's piece was the last article I edited this month. His message so eloquently expressed many things I've been wanting to say that I decided to just turn over the Editorial page to him. - JW]

It's late at night. Even Letterman's already off the air. You're typing madly away, into your favorite word processor. You look at the clock. In 9 hours that assignment worth 30% of the final course average is due, and you haven't even created the illustrations, nor have you totally debugged the program that goes along with the assignment. You save the WP file. Point, click, drag, point, click, click. You're now in DEGAS creating a title page and drawing a circuit diagram. Darn, what's the value of that resistor? Click, click, click, point, click. Oh, gotta call the university and make sure the assignment deadline wasn't extended. Click, point, click, click. What is wrong with this picture?

Lack of true multitasking, that's what's wrong. We all fantasize about it -- running two or more programs simultaneously on the ST, easily switching from one to the other, while possible running yet another program in the background. It doesn't have to be a dream, and recently several products have become available to try to remedy the situation. *K-Switch, Juggler, HybriSwitch*, all allow you to switch between programs, but they are only that -- switchers. Desk accessories help out a bit too, but few of them are actually written to properly coexist with other accessories.

Bandaids

My fantasy extends further. Imagine if TOS was totally rewritten, and the Mega replaced with a truly improved computer. Bandaid solutions will not help in the long run, and TOS is far too flawed already. Had Atari not wasted two years putting together a blitter chip that doesn't really work, and adding minor speed increases to GEM, they could have easily rewritten TOS, made it fully multitasking, and turned the Mega's into powerful contenders in the PC market. Instead, the Mega's are not much more that slightly faster ST's upgraded to four megabytes.

Perhaps Atari could get a few pointers by looking at recent developments in the IBM PC world. Having spent almost a year working at Microsoft, I've been exposed to a lot of the nice software and hardware that is out there. The ST line is still pretty young, not even three years old. It is roughly at the same stage IBM was at when it released the AT, and has a lot of catching up to do.

Of course, much more has happened since the release of the AT. The machines are faster by a factor of 5, there is a new operating system OS/2, and other software has been greatly enhanced. Lotus is about to release version 3 of *1-2-3*. Microsoft has already released *PC EXCEL*, which is probably the best spreadsheet program ever released, and the latest word processors like *WORD 4.0* and *WORDPERFECT* are nothing short of amazing. The 256K EGA and the VGA graphics cards put the ST to shame.

One thing that has helped improve the PC's is the fact that Intel keeps releasing better and faster chips that are downwardly compatible. An 80386 running at 20 Mhz has no problems running software written for a 4.77 Mhz 8088.

Dead In The Water

In this regard, the current ST's are dead in the water. The 680x0 chips are not completely compatible. There are differences in the instruction sets and in the actual operation of the 68000 and 68020 that require software to be recompiled, if not re-written. Atari should take the giant leap. Go to a 68020 based system! This doesn't mean that current ST owners will be left behind. When IBM and Microsoft announced OS/2, they offered the Mach 20 upgrade board for owners of 8088 based machines. Atari could similarly offer a 68020 kit for current ST's. After all, both the Mac and the Amiga have the 68020 available to them.

So let's pretend that my fantasy is coming true. Atari has just released this 25 MHz 68020 based ST (perhaps the famous TT?) It now requires an operating system that is as much of a quantum leap from TOS as OS/2 is from MS DOS, yet still offers some degree of TOS compatibility. This is a must if the new operating system is to become accepted. Imagine if OS/2 did not run MS DOS software. Nobody would buy it or write software software for it. By providing the MS DOS support, and offering OS/2 versions of tools like *Microsoft C* and *Codeview*, IBM allowed developers to port their software over with ease, while learning the new operating system.

Again, let's look at MS DOS and OS/2. MS DOS is not a true operating system to begin with. It offers some disk and screen I/O services. A bit of memory management and an okay command interpreter. That's about it. When combined with *Windows 2.0*, it is roughly the same package you get with TOS and GEM, (although *Windows* is far superior to GEM), but read on.

OS/2 Features

OS/2 on the other hand, is a real operating system. It has preemptive multitasking, message passing and half a dozen other methods of interprocess communication, virtual memory, swapping, and memory protection. The memory manager allows you to shrink and grow memory blocks, even move them around. When not used, a memory block can be swapped to disk to free up main memory. A program can have one of 96 priority levels. A program can have several occurrences of itself executing at the same time with only one copy of the code in memory. Operating system calls are no longer interrupts, but instead, are ordinary JSR calls that are linked dynamically at runtime. This means programs are smaller since their runtime libraries don't have to include any operating system bindings. And someone writing software can still choose between a text-based program and a windows-based program. The difference is that the operating system will automatically place the text inside a window, so that the text-based application can coexist on the screen with other programs. And when it does crash, instead of putting bombs on the screen, it displays useful debugging information. And this brief description of OS/2 features is only the tip of the iceberg.

Fast and Faster

How can these ideas be applied to TOS? First of all, call this new fantasy operating system TOS/2, why not? It has all of TOS's current bugs fixed, and has many features of OS/2. For example, all operating system calls are re-entrant. That is, if two applications that are running concurrently both make a call to LINEA or BIOS, the computer won't hang or put 10 bombs on the screen. And the new blitter is actually useful now! GDOS, now built in, runs at blinding speed. Microsoft Write can be used by fast typers.

The real time executive built into TOS/2 constantly checks available resources and program demands and priorities, and decides which application should be running at any given time. System throughput is many times what it was on the old TOS.

With GEM, the biggest mistake they made was to have it clear the screen when an application is executed. This automatically makes it a single application environment (unless you use MichTron's *Juggler*, which helps a bit). The GEM in TOS/2 is like *Windows*, where all applications run on the same desktop. The screen is never cleared. You can run a program, click on the drive A: window, and double click and run another program. The current GEM is already quite suitable for multitasking and requires few other changes except the ability to place text inside windows (which means a bit of co-operaton with BIOS). Megamax's new *Laser C* shell is a perfect example of this. It redirects all text output into a window.

The new GEMDOS is much faster. The brain-dead algorithm now used to access files on the disk is replaced by one as efficient as the one in OS/2. No longer does it have to take longer to copy a file on the hard drive than on a floppy.

Atari, Pay Heed!

TOS/2 is very nice indeed! Now all that remains to be done is to get Atari to pay as much attention to the North American market as it does to the European one. After all, IBM didn't get to the point it is now just sitting around doing nothing. It works hand in hand with companies like Microsoft and Lotus and listens to what they have to say. If IBM had remained as resistant to suggestions as Atari, we'd still have only 64K monochrome PC's on the market.

One last thing. Don't get the impression that working at Microsoft has completely brainwashed me into loving all that is Intel. You may be happy to know that I thoroughly HATE the PS/2's. They are bad machines. Period. I've seen clones that were more IBM compatible than a PS/2. PS/2's are ugly. They crash a lot. They have goofy keyboards and the keyboards aren't even fully compatible. They're slow. A PS/2 model 80 is about 20% slower than a Compaq 386, even with this new micro channel data bus. And who are they trying to fool with the Model 25 and 30? They are just repackaged XT's. They don't even have the micro channel and don't run OS/2. I just feel sorry for the million people out there that already have PS/2s. Give me a Compaq 386 any day.

Talking about PS/2's reminds me a lot of the Mega. But as I speak, my fantasy is turning back into a nightmare. I now have 8 hours to hand in my assignment. Click, click, drag, click, bomb, bomb, bomb, reboot, click, drag...

[*Darek Mihocka is a 3rd-year computer engineering student at the University of Waterloo, in Waterloo, Ontario, Canada. He is currently working on his latest emulator, which emulates the Atari 800, Apple][and C64 all in one package. He can be found roam- ing the message bases on Compuserve and Genie, or down at the record store searching for cheap CD's.*]

ST UPDATE

By Frank Sommers

LATEST NEWS IN THE ST WORLD

Heat in the Atari Kitchen

Hats Off Award -- Finally, the anger, anguish, frustration, affection and disenchantment was compiled and sent direct. Direct to "the little king", "the cardinale", the locus of the problem, Atari's Jack Tramiel. A five page letter settled onto the Chairmen's desk with hardly a sound. The slice as it was opened was equally soundless. The rumour goes that Jack Tramiel finished the letter and then immediately called its author. Two days later, a recommendation in it, "communicate with them out there, have Sam get on Genie..." saw a salutory appearance of Sam Tramiel answering questions at an impromptu electronic conference roundtable.

If the participants and those that heard about it were impressed and excited at the sudden display of interest and concern about "the problems out there", those within Atari

...Dedicated, concerned an above average group of people....

were equally upbeat. (Sounding after sounding about Atari and its problems smacks into a large billboard which reads, "The people at Atari are bright, concerned, damned hardworking, and an above average group -- it seems to 'lose direction' somewhere at the top, at the palace level.")

The comments in the letter continued to focus on the standard flaw in any organization that has serious problems, the one defect that is always at the top of the list, "Communications". In this case, lack of effective communication with dealers and developers and consumers (but we suspect within the organization as well). To the credit of the reader of the letter, an ad appeared shortly afterwards in the local newspapers, to the effect, "Wanted - a person with communications skills who has had experience managing a newsletter directed at (dealters and developers)." A small step, but again a step. And the collective heart reportedly beat a little faster within the company. (We repeat, it is becoming clearer, that if we care, the people who execute the work-a-day chores that keep the company functioning care just as much.) The rest of the letter was not unfamiliar to those of us concerned about our favorite computer company, particularly the statement, specific and convincing, about the serious drift of software developers from the ST to other computers. Credit goes to the founder of the current Atari, Jack Tramiel and its president, Sam Tramiel. To the enthusiasm of all of us, inside and outside the company, they have listened and acted.

But CN's plaudit goes to Gordon Monnier, head of Michtron, one of the largest program-list, highest quality, ST dedicated, software companies in the U.S. Gordon Monnier created the letter, synthesizing and compacting and clearly and connvincingly spelling out what the road ahead for Atari would be, should it continue to appear to be deaf to the voices beyond its office walls. Mr. Monnier, HATS off to you!

The Sweet Then The Bitter -- A different sound was heard in the board room of Word Perfect Corporation. When the question of how well the "new project" was doing, was reviewed, the numbers turned the mood of an upbeat company with high quality management and high employee morale sour. The new account on the books was *WordPerfect* for the ST. It had been undertaken way back when with some hesitation because the corporation automatically decided not to do it, as Atari does a number of their projects, "on the cheap". This meant full support, and as we have reported, more people working on it than Atari has on any single one of its projects. Also there was an awareness that the installed base of the ST versus the IBM meant that the sales difference between the two versions would be approximately 200 to 1. O.K., so let's go, and let's make it the number one wordprocessor for the ST too, was the decision, early last year.

The board meeting discussion in early March of *WordPerfect* for the ST, after the program had been on the market for over a 100 days, was

..more pirating of the IBM version than of the Atari....

disappointing. February sales didn't equal the salaries of the team working on supporting the project. More importantly sales had curved down sharply on the chart. Why? Piracy? Yes, *WordPerfect* had been found on several pirate boards. But the amount of "theft" of the program did not equal that of the pirating of the IBM

version. Yet remember the difference in sales numbers. Pirating one ST version was the equivalent of pirating 200 IBM programs. Why the sharp drop off in sales? Clear heads identified the probable cause as a buggy first release, and the wild-fire speed with which word spreads about anything in the Atari ST community. Word Perfect Corp. received more negative mail about the product than they had about any other. Was the fight worth it? The questions was raised about how long it would take for word to spread that *WordPerfect* was now essentially bug free. An update on 31 January made "the patient well", a subsequent update scheduled for near the end of March made it virtually bug free. But would good news travel as rapidly as bad? Then word got out on the electric boards that Word Perfect Corp. had decided to discontinue its support of the ST. A shudder ran thru the Atari ST community. Such action might well begin the tolling of the knell for a great machine. Sam Tramiel was in Europe at the Hannover Expo.

Powers that be at Atari got in touch with Word Perfect Corp. A meeting was to be held as soon as possible. Then on 17 March Word Perfect Corp. held "a conference" on CompuServe, which concluded that in view of the "considerable response" Word Perfect Corp. would continue to support the ST, and would port over new programs.

Write Now -- We would suggest that spurious as the original announcement may have been and despite the recent upbeat news, that we have indeed heard "an alarm bell". It still behooves all of us interested in continuing to use *WordPerfect* and those of you who are planning to acquire it (since simply put, it is currently the most powerful wordprocessor extent for the ST), to express these feelings and intentions to Word Perfect Corp. If we, who would like to have a serious word processor supported by the leading wordprocessing software company in the U.S., can show Word Perfect Corp. that we can applaud just as loudly as we can criticize, it should provide valuable insurance to having the next version of *WordPerfect* contain all the features the IBM version does now.

ATARI, WE ARE WATCHING YOU, BELIEVE IT!

A simple letter to the Word Perfect Corporation will have more impact than any one individual might recognize. WP's unique investment in issuing more updates faster than any other program ever written for the ST, the situation still requires expressions of appreciation from us for that fact. Loss of *WordPerfect* for the ST would be a serious loss for Atari, a tomb stone in fact, for their half-hearted effort to participate in the desktop publishing and small business computer market niche. But more importantly it would deny new ST owners the opportunity to acquire a top of the line wordprocessor, or for current owners any expectation of further updates. The action line for current and soon-to-be users is a short note to Word Perfect Corp. Five hundred such letters are our best insurance that we'll be enjoying the product next year and the year after. The focal point? Jeff Acerson, Director of Communications, Word Perfect Corp., 288 W. Center St., Orem, Utah 84057. Write now! We will keep you apprised of how many letters arrive. For Atari's part, we would hope they act with urgency to rewrite their Diablo emulator to maximize *WordPerfect*, *Publishing Partner*, and Microsoft *Write*'s use of it and the SLM804 laser printer.

Hardware

Affordable, Sharply Beautiful But Slow -- Those of you who salivate when you think of a printer that whispers out black beauty type but swallow hard at the $1,400-$2,000 entry level price of a laser, we suggest you visit a dealer that stocks the new Hewlett Packard Desk Jet Printer. The type surpasses or equals the Atari laser, and the sound will send you. At two pages a minute it is no Ferrari, but at $995 retail, and $745 discount, it looks and acts like a winner, or so HP managements thinks as it looks at its sales reports. (See note in "Scuttlebits" re the Cannon Bubble Jet.) The Desk Jet already supports a laser printer driver as well as an FX-80 driver. Whereas the Cannon Bubble Jet has yet to acquire these, but presumably this will present little problem since both machines use the same engine.

Hannover Revisited -- Atari will not show a 68030 computer at the Hannover Expo, publicly that is. Pri-

vately, (which usually means a device is even further away from production), they will show a UNIX System 5 machine, that is pure UNIX and not an IDRIS emulation. This is a stand alone Unix work station with a high resolution monitor, 1,260 x 980 color, and with a "bare back plane" or card cage of the S-100 bus type. How far along is it! One report has it that the box housing it is a Motorola VME case spray painted and then stamped with an Atari label. But the insides are pure Atari; Motorola won't have a 68030 machine for six or so months. The card cage suggests that this may also be the housing for the ABAQ since transputer modules could be placed in it and voila! there is your parallel processor. According to Robert X. Cringley in INFO WORLD, the device will have 4 meg of RAM and a 40 meg hard drive. It will cost less than $5,000 and not be available in the U.S. for at least a year. Atari plans to market it in Europe in the fall. Motorola's computer starts at $10,000. Even if Atari tried to "test the waters" by announcing one at half that price, it is not something your wife or parents will urge you to run out and buy.

The EST Again!-- Atari's R&D magician, Shiraz Shivji, long ago had a favorite project, a 32-bit brother for the ST, the EST. Rumours are abroad that the Extended ST, also utilizing a 1,280 x 960 resolution monitor, with a new TOS being written for it by Atari to handle the increased resolution, is about to be put in the hands of developers in Europe. Atari California claims that this is patently untrue. But the whispers suggest that if the EST was not to be shown at Hannover, then it will be, at earliest opportunity, in the U.S., i.e. the next show Atari commits to.

Factories & Silicon & Litigation -- Everybody including Atari is aware that there is a severe shortage of "product" for the U.S. consumer. This is exacerbated by Atari's understandable decision (from a profit view point) to send the majority of their machines to Europe where they have a well established market. However, this means that all phases of marketing ST's and Mega ST's in the U.S. of A. will suffer. Signing up dealers, reps, distributors, budgeting for advertising, the entire process is infected with a lack of vitality if there simply is "'too little product". To solve the Catch-22 confronting them, Atari did some "family planning" which included the possibility of building a new North American production plant, either here or in Mexico. That is now on hold until Atari has some certainty of being able to get the chips and parts to supply its production line. You will remember last year, when

....lack of product then a frantic search for chips...

"JB" was all the rage (Japanese bashing), our government braced Japanese chip manufacturer's via the Japanese government with some heavy, heavy talk about "reprisals".

The Japanese smiled, cut back on production, pushed up the price of their chips and began to compute their increased profits as the supply decreased in the U.S. and we met their new price. To be sure in the process, two, possibly three, US firms manufacturing chips hit peak production and far better "bottom lines". Micron Technology was one of these firms who was not unhappy to see the cost of 1 meg Dram chips nearly double. Last month in a frantic search for chips, Atari hammered out a chip contract with Micron, using their gentle "business is war" company anthem. O.K. Suddenly a supply of chips seemed at hand, until Micron reps got off the plane at their headquarters, the ringing in their ears stopped, and they realized that selling chips to Atari at Atari's prices would deprive them of higher returns from the normal market. Atari has filed or is threatening to file a breach of contract suit. We suspect this is a novelty for Atari, who in the past has been on the other end of the process. This could be considered as a serious set back for Atari. Bottom line: no chips, no plant, no increase in U.S. product.

Software

DTP & Two Thousand DPI -- The language and the acronyms are proliferating (See Bob Kelley's Quiz elsewhere in the issue) with the spreading Desk Top Publishing craze and with the magnifying glasses being applied to laser printing product to verify the one with the highest quality. ***Calamus***, "the total DTP program", according to its advance billing will not only perform at 300 dots per inch, but as high as a Linotype can go, 2,400 dpi. Those of us who don't have a Linotype printer will be more interested in what "total" means: a drawing program, the usual wordprocessor, a painting program, a charting program, more sets of ikons than ever before put on one screen, a finished product that equals the much revered *Ventura Publisher*. It sounds like a most impressive piece of software. Unfortunately, Mega ST owners will have to wait, while the 1040 ST version at $449 saturates that market first.

A Real DTP Capability -- Not to cry. Timeworks is all but here with ***Publisher ST.*** Comments from Europe where the program was devleoped by GTA are extravagant. "Spectacular!" It has everything the sophisticated DTP'er could want plus speed. Having looked at a beta version and worked with it for several hours, our enthusiasm is also "extra-

vagant". Once you get inside it, in a few minutes, with no time to study the documentation, you are able to load in a text and graphics sample page and click on the print command. The program is menu driven with eye-catching multi-color screens. There is no waiting for 20 minutes for a page incorporating graphics to push its way out of the laser printer. What it takes is about 35-50 seconds to setup the page in the Mega memory (it does require a minimum of one meg, preferably two to use it with the Atari laser), before it slicks it out into your waiting fingers. Your eyes grab for a sight of the page and the print quality from the Atari laser. Superb!

The quality of the print from a dot matrix printer, we are told, is not as satisfying, with the larger print looking somewhat jagged. But, the exciting part of the program is that now, suddenly with the advent of the SLM804 laser printer, ***WordPerfect***, and ***Publisher ST*** from Timeworks, Atari has a serious desktop publishing capability. For those of us who have been agonizing at the prospect of having to go to some other machine to turn out our newsletters or company reports, etc., this is heady wine, admittedly only a first sip, but we can hardly wait for the next one. Timeworks stated on 22 March, "We expect to begin shipping in three weeks."

The Biggest CAD, The Best CAD? -- Last month we tuned you in to JIL2D, Larry Hall's program that is still trying to fight it's way to market. Now there is a beta package out there, ***Symmetry***, suggested retail $199, which will be distributed by ISD of Canada, which has full plotter support and is considered to be significantly more powerful than ***DRA-FIX I***. Detailed reviews should confirm this.

Coming Attractions -- Movie based software continues. Watch for macho madness in the latest clone, ***Predator***. For those of you who liked ***Mercenary, Catch-32*** will be a satisfying follow-on. The ***Boulder Dash*** addicts can look forward to ***Rockford Plus***. We're still planning the shoot-out between the blitter chip and ***Turbo ST***, which has been seen in various quarters. Though it won't work with ***WordPerfect*** or ***1st Word Plus***, because they both co-opt the GEM screen, it is reportedly an eye pleaser as it blazes along. The three biggies continue to be ***Dungeon Master***, ***Gunship***, and a new comer from England, ***Bubble Bobble***, totally different from ***Bubble Ghost***, (see Joe Kuffner's RELAX & ENJOY review of the latter), but just as, or possibly even more, involving for arcade veterans. Now Eidersoft is coming forth with ***Flash Back*** & ***Cache***, a speedup backup program for your hard drive. They are also reported to have a new paint program with up to 4,000 colors. That should do it for most of us.

The "Heat Man" Cometh -- In the past we have cast Neil Harris as the man who takes the heat for Atari. Rumors abound that as the fragaman of the outfit, the soldier who leads the others up front, carrying the banner, he is authoring a much needed publicity/advertising push for the company, and that he is tying his banner to a new sales effort (certainly critically needed). Purportedly he has recognized that Atari and desktop publishing, of any consequence, won't happen with the Mega and the laser's present configuration, i.e. GDOS and ***Easy Draw***. We urge him to investigate adapting some form of Postscript.

Setting the Record Straighter -- Hal McCrery and Craigh Morehouse of StarSoft Development Laboratories and TDC Distributors are patient men. When we rave reviewed their game, ***Stock Market***, we did not mention StarSoft. Last month we tried their patience again when we corrected our ommission and gave StarSoft, the developer, and TDC, the distributor, full credit for the game, but called it "Wall Street" after the main graphics screen pix, entitled, "Wall Street". In the same issue "Relax and Enjoy" columnist, Joe Kuffner, panned two games distributed by TDC, ***Time Blast*** and ***Liberator***. We also mis-credited StarSoft Development for their misbegotten creation. Let it be known that TDC distributes StarSoft Development programs, e.g. some of the best being ***Stockmarket*** & ***Pirates of the Barbary Coast*** & ***Mouse Quest*** (formerly *Mouse Trap*). But not all programs TDC distributes are developed by StarSoft, e.g. two of inferior quality being ***Time Blast*** and ***Liberator***. Next month we will be reviewing *Santa Paravia* and *Fiumaccio*, a graphics strategy game in which up to six players can compete to build "a powerful kingdom out of a little city-state" in the year 1,400 AD. It is distributed by TDC and was developed by StarSoft. Clearer now?

What is the Magic? -- Commodore, as a computer company, was voted DBA at the beginning of last year. Dead and not to live again, was the verdict. The company was broke, the loans were coming due and the great white hope, the Amiga, was overpriced and a software orphan. Commodore and the Amiga were Dead Before Arrival. Then what happened? Michtron has just come out with a potentially big chart program, ***Juggler***, and has discovered something interesting. To date, ***Juggler*** has sold 200% more copies for the machine that was "gone" last year, the Amiga, than it has for the ST. Why? As we have noted previously, advertising and fair and favorable dealer credit policies have caused a growth of Commordore and Amiga dealers. A number of Atari dealers are now also selling Commodore wares. So basics, back to basics, if you want to merchandise, popularize. Popularize the product and then widen the network that sells it. "Widen" means convincing dealers that you will help them into, thru, and over the hurdles to profitability.

Riddle -- Why did the Tennesee Valley Authority just buy 40 ST's, each with a ***Computer Eyes*** digitizer?

ATARI SCUTTLEBITS

By Bob Kelly

All About Computers or How are your acronyms!

Understanding the terminology associated with computers is becoming an increasingly time consuming task to the layman. It often appears that a deliberate attempt by professionals to obfuscate is underway. For example, the table of contents in a recent issue of InfoWorld listed these two articles:

"Microcom's new MLB/1500 LAN bridge connects two geographically separated LANs over an ISDN network

.....

Users think that adoption of SAA is inevitable step"

It used to be funny when someone peppered their sentences with words like input. Now, with the addition of a bewildering array of acronyms, the fun has become frustration for most. Even the substance of a simple sentence becomes something Champoleon might have pondered for days.

When I first sought hacker status, an expert was somewhat simply viewed as one who could explain the difference between RAM and ROM. If these acronyms still elude your grasp, either owing to lack of interest or just common sense, it might be wise to skip the first portion of this column. However, if you want to continue, below are some of the latest phrases/acronyms to identify (I've included some hints). The easy ones are, of course, first. The answers to this mini-quiz are on the next page:

1. LAN (The rage in the trade press)
2. Presentation Manager (Big Blue developing)
3. WYSIWYG (Word Processing)
4. P.C. Virus (A sick computer system)
5. Blitter (Easy, a give-away)
6. Disk Caching (What's this about RAM)

OK, OK, so you think you know all six. You're ready for the Senior Computer Scientist's chair at Sunnyvale? However, before checking the answers, let's turn the screw a little tighter. Here are a few more (no hints for some either).

7. DRAM (This is another give-away)
8. RISC
10. CASE (Software help)
11. WORM
12. SAA (PC's, Mini's, mainframes)

As for scoring, 10 or more correct indicates your knowledge is indeed current. If your score is between 6 and 9, more reading may be in order. Below 6, while the situation is not terminal, one can hope for a sports quiz next time.

Disinformation

Do you ever get tired of stories about the Atari and software pirates. It appears that when there is nothing else to write about, this subject becomes a "hot topic", i.e., it fills space. The latest example is ST Informer (March '88). There is one paragraph that illustrates the lack of research common to all articles of this genre:

> ST Informer is concerned that the label of 'Piracy' is attached to the ST because there aren't enough machines in circulation to still create a heavy demand on software publishers. After all, publishers of software must make a profit, or there is little sense in writing software for a particular machine. The history of the CPM operating system, where massive amounts of software were available in the public domain, seemed to seal the fate of CPM based machines.

I would like to point out:

1. Washington, D.C., Maryland, and Virginia have never had so many Atari retail outlets as they now do. Computer retail stores live and die by follow-on software sales. If no one is buying, the stores close.

2. The Atari ST is either the best or among the best selling computers in several European countries. Most U.S. software manufacturers are not ignorant. The more aggressive U.S. firms are exporting to Europe. As a result, they have no intention of abandoning the ST and losing actual or potential overseas markets. On the other hand, some software firms may not recognize the importance of the international market and are at risk in the long run. Their poor understanding of the nature of the business competition they face is the issue and "piracy" is only a convenient excuse.

3. True, Atari has not promoted ST sales in the U.S. market owing to production constraints. Software dealers are well aware of this situation. This again is another issue. Pricing policies of software firms, however, can take this into consideration (economics 1).

One more point relative to the quote above. The statement that too many public domain programs brought about the downfall of CP/M is about the ultimate in s---------. Oh! How Atari Corp.

wishes it had this problem - too many users writing too many public domain programs. Being an old CP/M type, I still use *dBase II* on my ST. One might say, this article has "sealed the fate of ST Informer" in terms of business reporting.

Market Notes

I recently attended the Federal Office Systems EXPO at the Washington, D.C. Convention Center. It was packed for the first time in years. There was one outstanding item of particular interest tothe home/small business computer user. How about a printer that produces better graphic images than a laser for under $700 retail? Canon has just introduced such a machine. It is the BJ-130. Once you see it you will be a believer. The BJ-130 is a bubble jet printer with a resolution of 360 cpi.

Did you hear that both Tandy and Texas Instruments may be producing Mac clones? Word is they will be introduced this summer. Wonder what the pricing policy will be?

The shortage of 256K and 1 megabit chips is supposed to ease this summer as a result of U.S. production. Yes, you heard right - semiconductor chip production in the U.S. will increase. Motorola is the primary firm. Hopefully, chip prices will ease by the fall so that Atari users can upgrade their machines to2 1/2 megs at a reasonable price. With the new graphic animation programs, over 2 megs may become a minimum level.

Current DRAM shortage is not affecting IBM. Naturally, IBM manufactures their own 1 megabit chips supporting the introduction of the new product line designed to run OS/2.

IBM plans to dramatically cut prices for its new 80386 line of computers by 1989. Entry level prices will decline from around $7,000 in 1987 to a projected $1,350 in 1989. The objective is to regain market share which will in the process eliminate some clone manufacturers. Remember, IBM makes about 80% of the components for its computers and there is nodoubt in my mind, they could be the "low-cost producer" if they so desired. Watch this one carefully if you have invested in clone stocks.

ST-Log (Analog) is finally out again. An April issue is on the newsstands. Analog/ST-Log was purchased by Larry Flint, the publisher of Hustler magazine. The disk version should eventually be real interesting!

Answers

1. LAN - "Local Area Network" - A means to link several PCs together, permitting efficient use of peripherals and the exchange of information.

2. Presentation Manager - GEM/Windows type interface for the IBM allowing operation of multiple programs simultaneously.

3. WYSIWYG - "What You See Is What You Get" - The screen presentation for a word processing program replicates print-out.

4. PC Virus - A program file that attaches itself to another file every time it is run. "Evil" viruses can destroy the contents of a user's floppy or hard disk. It has been said that two well-known IBM utilities have been infected - ARC and LIST. Mac programs have been infected on Compuserve and the latest word is the infection has spread to the Atari ST. There are anti-virus programs to check for a virus (for ST protection, see #6252, PROTECT.ACC on Genie).

5. Blitter - Computer chip purported to speed up screen display on the Atari. (Many doubt it lives up to expectations.)

6. Disk Caching - Automatic saving to RAM, permitting faster operation as opposed to returning to hard disk/floppy for information recall each time.

7. DRAM - "Dynamic Random Access Memory" - Advantage is the compact nature of the dynamic memory chip as opposed to the static chip design.

8. RISC - "Reduced Instruction Set Chips" - Mainly used in high-end work stations, greatly increasing speed. RISC require 2 to 6 times less logic than traditional Complex Instruction Set Chips (CSIC). Ultimately, RISC technology will revolutionize home computers.

9. CMMU - "Cache Memory Management Unit" - A storage area where data and instructions can move in parallel to the Central Processing Unit (CPU).

10. CASE - "Computer Assisted Software Engineering" - Another way to say the computer helps program the solution. Problem is that the human operator must be very precise in the instructions given to the computer doing the programming. How many precise humans do you know?

11. WORM - "Write Once Read Many" - Optical disk mass storage (200+ megabytes) device. While you cannot over write existing files, you can write new files to the disk up to its capacity.

12. SAA - "System Application Architecture" - An IBM developed group of interfaces and protocols which will eventually allow users to develop consistent applications across IBM's PC, mini and main frames.

That's all folks .....

THE REMARKABLY VERSATILE ATARI ST

Conversations with the IBM PC, Macintosh, and Wang

By Wm. Price

DATA INTERCHANGE

Interconnectivity and interchange of data have been among the major goals of users in the last half of the 1980s. Until recently, computer hardware manufacturers have done little to bring about compatibility between equipment and standardized data transfer formats. Once a user committed to specific hardware and applications software, there was little chance of porting data to another hardware environment short of laundering the differences through modem transfer, optical character recognition, or re-keyboarding the data. The ASCII standard has provided a basis for transfer of files, and Document Interchange Formats (DIF) are becoming more prominent. With all these recent compatibility efforts and publicity, the Atari ST and its third party software developers remain hidden jewels in the interchange arena. The ST is an inexpensive, multilingual turnstile that operates superbly in crossing different computer boundaries. In many instances the ST operates as effectively as handshaking politicians or TV ministers in addressing broad and diverse audiences.

Third party software developers for the ST are doing a remarkable job of building bridges to other hardware and software systems. The effectiveness of *MagicSac* and *pc ditto*, with their low costs, have more than proven this point. The ST with these emulators has no equivalent handshaking performer in the marketplace, and none with the dollar for dollar value. Indeed the ST lacks the software repertoire that is available for the IBM PC, nor does it have software with the polish of that for the Macintosh. But it does have a variety of software that can address most of your home and, in some cases, office needs. And what it also has is the inexpensive capability to cross the IBM PC and Macintosh boundaries to let you work in these arenas with your ST at home and a PC or Mac in the office.

Most of you are by now quite familiar with the *MagicSac's* emulation of the Macintosh and *pc ditto's* performance with IBM PC software on your ST. And those of you who are chronic modem users know how easy it is to converse with different types of mainframe and PC systems to transfer data. You don't have to fret SNA, DCA, and IBM 3270 protocol to achieve this with the ST. However, the real versatility of the ST is demonstrated with its capabilities for exchanging information, on disk, with both IBM PCs and Macintoshes. Here are some actual examples that you can duplicate.

THE ST / IBM PC CONNECTION

Usually our typing is done in the office and it is left there. Lacking the same type of computer at home, because of the expense, at day's end the work stops. But now with an inexpensive Atari ST at home, the pace can be continued to meet important deadlines. Here's an actual example of how this has been accomplished with the ST.

At the office, a report was drafted using a Wang and its WP software. This WP file was converted to ASCII and written to a 5.25" IBM formatted disk. At home, a Tandon drive was used with the ST to read this file into *ST Writer*. Tandon is one of the 5.25" floppy drives that can be used with *pc ditto* to port IBM software to 3.5" disks. The ASCII file was read directly from the IBM disk into *ST Writer*. As many of you are aware, the ST and IBM disk formats are virtually identical, whether 3.5" or 5.25". And ASCII is ASCII is ASCII regardless of source or destination hardware. Place an IBM disk in your ST's 5.25" or 3.5" floppy drive, click on the drive icon with your mouse, and the directory will display on the screen. Its all done with ST TOS and GEM. IBM DOS emulation is not required. Furthermore, the ST will display hidden files that the DOS Dir(ectory) command will not display on the PC. There is one slight hitch. The 5.25" drive cannot operate at the 3ms seek rate used for 3.5" drives. You must use a slower 6ms seek rate. This is accomplished at start-up by using a utility like DSEEK.PRG or SEEK.TOS available from Compuserve or GEnie. Both *pc ditto* and the IBC utilities for 5.25" drives automatically set this seek rate.

Now, on with the report prepared on a Wang and converted to an IBM disk. This ASCII text file was edited and revised with *ST Writer* and saved to an ST 3.5" disk. With the disk directory displayed on the GEM screen, by dragging the file with the mouse to Drive B, the 5.25" drive, it was copied to the IBM formatted disk. The next day in

the office, this file was loaded into *Multimate Advantage* on the IBM PC. Some additional changes were made with *Multimate* and the report was printed. To further test this transportability and interchange, a *Multimate* formatted file as well as an ASCII file of the same report were saved to disk. At home, both of these files were loaded into *ST Writer* from the IBM disk. The ASCII version was a perfect image of the text file. However the *Multimate* version has a structure unique to *Multimate* and is interspersed with special control and format codes. Many word processing systems produce similar unique files. They are intended for use with the source application and not with other WP programs. For transferability, stay with ASCII.

THE HIDDEN VIRTUES OF ST WRITER

And what about *ST Writer*? Does it produce an ASCII or interchangeable text file? I have heard some users complain that *ST Writer* produces a format unusable by other applications. However, this is far from true. An *ST Writer* text file is almost neutral and as ASCII as you can produce. Pure ASCII text can be prepared with *FLASH* in it's capture buffer. However, *ST Writer* control codes that the user inserts are unique and cannot be used by other word processors. But the text itself, after deleting the DO RUN RUN header, is pure ASCII. On the other hand, *First Word Plus* has a unique departure that is always noticeable in a README file from GEnie or Compuserve. It uses HEX lE for spaces rather than the standard HEX 20 value. As a consequence, when these files are dumped to the screen or printer, there are no spaces between words. Like writing the Thai language, all words are run together. The quickest way to solve this problem is to print these files with their creator — *First Word Plus*. Thus if you want to interchange text files, *ST Writer* as well as the text editing facilities of *FLASH's* capture buffer are as good as any.

ST-TO-IBM-TO-ST — A SNAP!

Transfer of text files between the ST and IBM environments has been highly satisfactory. In summary, the paths and boundaries crossed were Wang to IBM PC, then to the ST, and back to the IBM PC. The entire exchange was accomplished without resorting to *pc ditto* emulation of the IBM PC. The compatibility of ST and IBM disk formats allows this interchange. And with IBM's introduction of 3.5" drives on the PS-2 series, this interchange is now more direct. The *Multimate Advantage* file was later used with that software and *pc ditto* emulation on the ST. It operated equally as well.

As an interesting side note, a friend recently purchased an IBM PS-2 Model 30. He was immediately faced with the dilemma of how to transfer software and files from 5.25" disks to the new IBM 3.5" size. You guessed it! The Atari ST came to the rescue. Some disks were copied with DOS using *pc ditto's* emulation of the PC. Others were copied by simply dragging files from one disk to the other on the ST's GEM desktop. The target disks were IBM formatted. And one disk was copied with *Pro Copy* set for 40 tracks. This more than underscores the ST's versatility. You don't need an IBM PC at home to be compatible with the office. The ST will do.

THE ST / MACINTOSH CONNECTION

Now, lets look at another route that has been equally successful with the ST, but with more dynamite on the output. *MagicSac* allows you to run most Macintosh software on the ST. And one of the best applications for the Mac is *Ready,Set,Go!* Of all the desktop publishing software available, this is the easiest to use and has some exceptional features despite the fact that its chief competitor — *PageMaker* — is often touted as the leader. With *MagicSac* turning your ST into an Ataritosh or Macintari, it is easy to transfer ST files across the boundaries to a Macintosh II and LaserWriter plus printer.

In the first test, previously described, the original report that began on a Wang was revised and polished with *ST Writer*. The report was then transported back to an IBM PC and printed with a Prowriter. The product was nice, but ho-hum — typical of any monospaced printing from a daisy wheel or dot matrix printer.

Clearly it was time for output with esthetic elegance. With the ST, the revised *ST Writer* version of the report was transferred to a *MagicSac* formatted disk and converted to Mac binary (*Mac Write*) format. This was accomplished with Doug Wheeler's TRANSVERTER version 3.10. A limited or demo version of TRANSVERTER is included on the *MagicSac* boot disk. The full version can be purchased for $25 and is worth every penny of the cost. This transfer from an ST to a *Magic* formatted disk takes place under TOS.

With *ST Writer* text now in Macintosh format, *MagicSac* was booted and using its Macintosh emulation, *Ready,Set,Go!* was loaded. A single column page template was created with *Ready,Set,Go!*, and the Mac binary version of the *ST Writer* report (originally created on a Wang) was ported into this template. The text was changed to Palatino, a *PostScript* font, in 12 point size. The report title was highlighted for 18 point

bold, and paragraph headers were set in 14 point bold. Although the ST/*MagicSac* connection cannot drive a LaserWriter directly (*AppleTalk* is required), *PostScript* fonts are displayed on the screen and the appropriate *PostScript* printer codes are inserted in the *Ready,Set,Go!* output file. A proof of the typeset version was produced with the ST on an Epson compatible dot matrix printer. The Epson FX printer driver, developed by SoftStyle for the Macintosh, must be used. This driver replaces the ImageWriter driver that normally comes with the Mac Finder and System.

Lacking the ability to drive a LaserWriter with the ST, the *Ready,Set,Go!* typeset version of the *ST Writer* file was copied to a Macintosh formatted disk. This step relies on the Translator, a companion to the *MagicSac*. Macintosh disk drives, unlike those for the ST and IBM, operate at variable speeds between the outer and inner tracks. The Translator is a small computer that controls the ST drives to match these speeds so that you can read and write Macintosh disk formats. Under *MagicSac* emulation, the file was dragged with the mouse from the *Magic* disk to a Macintosh disk formatted with *MagicSac*. Both sing1e sided MFS and double side HFS Macintosh formats were used.

Using *Ready,Set,Go!* on the Macintosh II, the ST-*Magic* file was printed on the LaserWriter. This produced a typeset report that was far superior to the dot matrix version. It was not only superior in graphic eye appeal, it was superior in overall readability plus in its ability to quickly convey key points made in the report. Both the MFS and HFS disks from the ST worked flawlessly as have those disks produced on the Mac II and used on the ST. Additionally, the *Ready,Set,Go!* file was converted from its typeset structure to plain Mac binary text using the PUT TEXT facility of *Ready,Set,Go!*. With TRANSVERTER this file was then converted to an ASCII file and written to an ST disk. The text came up perfectly in *ST Writer* and subsequently it was easily transferred to an IBM PC.

THE ST — ELECTRONIC ESPERANTO !

As the above exchanges clearly demonstrate, the ST can be used to its own devices as well as a turnstile between the Wang, IBM PC, and Apple's Macintosh. The ST can provide a bridge between the IBM PC and Macintosh, and in its own right it is also a worthy backup to either of these computers. WP files created with the ST can be used on PCs or Macs. This is workable with an ST word processor, with *pc ditto* and IBM WP software, and with *MagicSac* and Macintosh WP software. Files from the ST or IBM can be prepared with Mac's *Ready,Set,Go!* for LaserWriter printing on a Macintosh. The ST can provide an inexpensive standalone workstation in the office that is compatible with PCs and Macs, and it also provides the facilities to continue your office work at home.

THE COMMUNICATIONS LAUNDRY

One of the easiest methods for transferring data across computer boundaries is with a modem. Where disk formats differ or where direct interconnectivity is prevented by incompatibilities, telecommunications can usually be employed to launder the differences. The ST can exchange files through a modem and telephone link with a wide range of desktop computers and mainframes. With a Bulletin Board System (BBS) on your ST, files can be uploaded from the office to the BBS. During the evening, files from your BBS work disk can be used with *ST Writer* or other applications software. When editing has been completed, revised files can be saved to the BBS work disk. Back at the office your work can be continued by downloading these files with an IBM PC or Mac from your ST BBS.

Another method is to upload a file from office or home to GEnie or Compuserve. It can be temporarily "parked" and downloaded later. This technique will avoid tying up your home phone for sustained modem and BBS operations.

THE LOW COST, POWER SOLUTION

The ST is highly versatile for the exchange of text with other computer systems. It is equally versatile at operating IBM software with *pc ditto* and Macintosh software with *MagicSac*. No other computer provides this flexibility and latitude of operation. "Power without the price" is an understatement. With the introduction of *Word perfect* and Microsoft *Write* for the ST, this power is continuing to increase at highly competitive prices. *Ready,Set,Go!* for the ST would be a welcome addition. A reasonably priced *PostScript* laser printer is essential.

Is the ST a game machine or a toy? Bah humbug! The evidence clearly demonstrates that it is a serious and powerful computer that can easily hold its own. Unfortunately there are some who cannot see beyond the hood ornaments of expensive cars. At such a reasonable price and with such excellent performance, the ST is truly a *volks* computer. It has all the power and much of the software needed. And of all its virtues, it is comparable to the Macintosh in being people literate and in having the same velvet ease of use.

PIECES OF EIGHT

By Len Poggiali

ICD PURCHASES OSS PRODUCT LINE

An Interview with Tom Harker, President of ICD

Recently I had an opportunity to speak with Tom Harker, president of ICD about ICD's acquisition of the OSS product line. What follows are excerpts from that interview.

ICD has long been known for its excellent hardware and software products for Atari 8-bits. Some of its items mentioned in this article include P:R:Connection, which features a standard 'centronics' printer port and two RS-232 type serial ports for modems, etc.; US Doubler, which supports true double density and provides an accelerated I/O rate which in conjunction with *SpartaDOS* triples speed; and R-Time 8, a piggyback cartridge containing a clock with a three- to five-year battery back-up.

Q: What at the moment is the status of OSS?

A: What happened was OSS was having some financial problems, and we had been friends with them for a long time, and we decided to purchase the major assets of OSS.

Q: Why did they close up?

A: Financially there were a couple of things that really hurt the market. Decine of Atari computer sales, and the software piracy issue which always hurts.

Q: The major reason was the fall-off in 8-bit sales?

A: True. The ST sales have not been that great either.

Q: Why did ICD take over OSS's product line?

A: We had a friendly relationship, and we feel that we've been fairly successful in the Atari 8-bit markets. We have the expertise here to support the products properly, to do updates as needed, and to develop new languages in the OSS tradition.

Q: Which of their products will you continue to market? Are you going to discontinue any products?

A: Right now we're looking closely at The Writer's Tool. We may drop that product. OSS had dropped *Mac/65*. We purchased the rights to that from the author. We'll be putting out *Mac/65* again, the tool kit for that, *Action*, *The Action Tool Kit*, *Basic XL*, *Basic XL Tool Kit*, and *Basic XE*. Also *Personal Pascal, Version 2* for the ST.

Q: Are you discontinuing The Writer's Tool because there are too many other 8-bit wordprocessors out there already?

A: Not really. Basically there's no inventory. There's a possible second version in the works, and it's a contractural thing with the author. It's a big investment to bring out a product like that and market it properly, with the advertising and all, especially if it doesn't pay for itself. There are also new manuals to be written. I think if there's enough demand -- if you want to start a letter writing campaign -- we'll bring it back. I know OSS from their sales record, they weren't very successful with the original *Writer's Tool*.

Q: Why are you bringing Mac/65 back?

A: Because there's a big need for that, I think. There are no good assemblers. If you don't have a good assembler, nobody's going to write software anymore for the 8-bit. It's bad enough that there's not much software being written. That's one of the things we hope to do with the languages is promote them a lot more than OSS had been doing over the past few years. Perhaps we'll get them in the hands of some budding programmers, and some good software will be written for the 8-bit.

Q: Will anybody from OSS be coming over to you?

A: No.

Q: What is happening to them then?

A: As of the end of last year, the only OSS people left were Mike Peters, and there was one text support person still there -- a skeleton crew and working out of Mike's home.

Q: How do you see the OSS products working with yours?

A: They've always fit quite well together. All of our products will support their products and vice-versa. We've always made sure *SpartaDOS* would work properly with *Basic XE* and *Basic XL*. We make sure our hardware products work properly. For example, with our R-Time cartridge we went out of our way to make sure that would work properly in the bank switching with the OSS carts. If and when we do new versions, or add special features, we'll make sure they all enhance each other.

Q: Which have been your most popular products this year in terms of sales?

A: Probably our printer interfaces have been the strongest as far as numbers. P:R:Connection and Printer Connection have been about equal in sales. The *SpartaDOS* has gotten good popularity, although it's being pirated heavily. We came out with a tool kit for it, and I see it's already on a lot of the pirate boards all around the country. In fact we had a guy call up today who said that he had downloaded a *SpartaDOS Toolkit* from a board and went to uncompress it, and it formatted his hard disk, and he was upset. I got a kick out of that one.

Q: Both OSS and ICD have been heavily into Atari 8-bit products. Why have you (unlike OSS) been able to survive in spite of the drop-off in Atari 8-bit computer sales?

A: I think because of our broad product line. Also, we have a lot of hardware products which don't get pirated as badly as the software products. People for some reason think that hardware has more value to it, I'm not quite sure why.

Q: Anything else you would like to add?

A: We're adding all the OSS products to our bulletin board. As far as support, we're getting more involved on CompuServe, Genie, Delphi, and BIX (Byte Information Exchange). We have our own what's called a Developers' SIG on CompuServe that's beginning this week for ICD/OSS products, and we'll have support files and things like that in all of those areas.

Q: Anything else?

A: One of the problems a lot of the companies had recently is that they have not been out promoting their products. We made an effort last year. We began going to all the Atari Club shows that are all around the country, and we plan to go around again this year.

Q: Are you extending into other computer markets besides the ST and 8-bits?

A: We keep talking about it, but actually we're not. We have some generic products on the back burner that'll work with all computers, but they never seem to get developed fast enough. We are always the last people to realize the problems. We're probably the last 8-bit developers doing hardware and software both for 8-bit Ataris. And, who knows, we're starting to get into the ST more strongly. Maybe we'll be the last one there too.

Q: Why do you continue?

A: Because the sales are still there. We're still a growing company. We've grown every year. We're growing bigger, and we're profitable. I don't see any problem with that. If Atari closed its doors today, we still would sell products for another year.

Q: Who are the people who are buying your products?

A: I read all the warranty cards that come in. We haven't done any official studies or anything like that, but it's the average, die-hard Atari 8-bit users who buy from us. Mostly with the ST products it's the people who want something better than what's out there.

Q: Is there a specific age group most of them fall into?

A: That's difficult to tell because we don't ask for an age on the warranty. We mainly ask for their name, address, what part of the country they come from, where they purchased the products -- which really points to mail order houses. That seems to be the big place everybody's getting their products from.

Q: Any general impressions as to where the 8-bit is headed?

A: It still has life in it. I kind of compare the Atari to an old MG. It's still driveable; it's fun; it's useable. There's no reason to upgrade to an ST unless you know everything there is to know about an 8-bit, and I don't think there's anyone like that out there.

IT'S A SMALL WORLD

By Dave Small, (c) 1988

SHIPPING THE TRANSLATOR

Part 1: November Nightmare

I guess it's one of those deals where I'll look back in twenty years, and laugh. But not in less than 20 years, I'm sure.

I've just managed to survive 1987, and I thought I'd tell you about it. I mean, I haven't had this much fun since I had three fillings replaced and the novocaine didn't work.

My friend Sherwin Gooch once told me, "All that ultimately counts is 'getting it out the door'. The spiffy design doesn't count. The work gone into it doesn't count. The elegance of the code doesn't count. All that matters is 'getting it out the door.'"

We got the Translator out the door...

The Promise

As you'll recall, during Summer 1987 the brave souls at Data Pacific (sometimes known in-house as Data Pathetic) promised a device called a Translator. This unit hooks between the disk drive and the Atari, and "translates" the disk signals from a Mac disk into something the Atari can read. "Turns your Atari disk drive into a Mac disk drive".

I'd had a prototype Translator since May, and spent my summer (summer? What summer?) writing the software for it. I ended up with right about 11,000 lines of Z-80 assembly code. That's right, Z-80; the Translator is a full fledged computer, with a Z-80, RAM, ROM, and so forth inside it.

I tell you, it is mighty weird to work on something all summer and see that whole summer compressed onto one ROM chip, a place to pre-store a program for a computer.

So, October came around, and we had our prototypes in-house just singing along. It works like this: You get about 10 PC boards, hand solder parts into them, and test out the design, making sure it works.

Then you pray a lot, order 500 boards, and get them mass soldered on a "wave solder" machine. You also go trotting around to fifty different parts supply companies, setting up lines of credit and so forth; usually you have to pay for the parts 30 days after you get them, which means you have 30 days to sell them, make some money, then pay off your parts suppliers. These Translators are not cheap to build.

Well, so we order the parts, making substitutions as necessary when we couldn't get them (sometimes there are SIX MONTH lead times on these IC chips!). And sometimes parts suppliers are, shall we say, overly optimistic ... like that Zilog chip that didn't even exist other than in one-part samples.

During this period, I kept mighty busy tweaking the code inside the Translator, catching various small bugs. The worst problem was persuading the 5 Mhz Z-80 inside the Translator to keep in sync, at all times, with the 8 Mhz 68000 in the ST; this finally wasn't resolved completely until Februrary.

First Try

We chickened out on the 500, did a run of 100 instead, just to make sure it was right. Jeff Greenblatt detailed my experiences with Raving Idiot Chip Supply in a previous issue, so I'll skip on that story (they supplied us AD558 chips that weren't what we asked for, which hoplessly fouled up our prototype run). This is why it was November for the first run, instead of October; all those bad AD558 chips had to go back and we had to get new ones, which took awhile.

We got back the first 100 boards in mid-November and I confidently plugged some in to test them.

None worked. Zilch. 100 % DOA rate.

This is when the cold sweat begins to form on your neck.

I had no idea what was wrong; "the prototypes worked, dammit!", was my usual mode of talking those days. I spent awhile checking obvious stuff; the boards *looked* good. Desperation set in.

So I revived the team of "Small and Small, Troubleshooters and Exorcists", and brought my

wife in. She's good at this debug stuff, especially hardware; she asks just the right questions that I never think to ask.

So, she asks, what are the Translators doing? Well, I can talk to the onboard Z-80 processor, and it can talk to me ... but it can't read a disk. So, we trace the disk signal through the board, starting where it comes in on the Atari 14-pin DIN connector, all the way through ... well, NOT through, the Western Digital WD92C32 chip, a "data separator". (Data separators help the floppy controller chip read the signal through all the noise.)

The signal goes in. Nothing comes out of the chip but noise. A few other boards ... same thing. How odd.

"Oh, Joel", I call. "What's this 92C32? I thought we used a 9216."

Well, Joel tells me, Western Digital discontinued the 9216, and upgraded to the 92C32, which is "pin compatible".

"Did we ever test one?", I ask. Silence greets the question.

Bingo.

We desolder the 92C32 on a board, solder in a 9216, and the Translator starts reading the disk.

Which leaves us with 100 boards that need a chip desoldered. This is not fun, in case you've never desoldered everything; there's 8 little pins that have to come loose per chip, so that's 800 little intricate desoldering operations. For instance, you can't leave a thread-thin "solder bridge" between two pins; you can't pull the pad up while desoldering; you can't overheat the board; and so forth. I began to realize the November shipdate is looking bad.

Next problem. Some of the boards are acting mighty weird. I've built a very extensive set of diagnostics into the software to test out the hardware, and the diags are reporting trouble; in fact, I'm getting the message that says, "This board is so sick the diagnostics won't even work".

The onboard diagnostics say the RAM memory chip is bad. The RAM?? That's normally a very reliable chip. So we take one of these dead boards, replace the RAM with a known good RAM chip, and try again. "RAM is still bad." Hmmm. This means something else is wrong that's making the RAM look bad, since we know the good RAM chip is good. What could it be?

The obvious candidate, and the only one that didn't involve desoldering (okay, so I'm lazy) was the CPU chip. We swap CPU chips with a known good Z-80 CPU ... RAM is still bad, says the message. Welp, that wasn't it.

This is weird. Maybe we blew up the RAM with static electricity or something? We plug the good RAM and CPU back into the good board ... *which now doesn't work anymore.*

Okay, get another good board. Swap again, since we know these chips work. Still doesn't work on either old board.

In fact, the new (good) board stops working too.

"What the $^%&#^$%^&?", I say. Sandy, my wife, is a bit more genteel; she says, "What the !@#$^#$$%??" Chips just don't blow up that way! We've just managed to kill two perfectly good Translators.

We had one "good" board left at this point (we'd swapped several of the WD92C32 chips out). I wanted to make sure I knew which board was which, because there was clearly something badly wrong here. So I took a stick-on label, put it on the CPU chip, and wrote "OK" on it.

The board quit working.

I could have sworn I heard "Twilight Zone" music playing dimly in the background.

Here's where experience comes into play. If you've done enough playing around with electronics, you run into these weird things, and they forever become a part of you, and your memories. (Except when you try to block them out, which can be a good idea). Something in me said, "Bad Socket -- pressure on the CPU chip kills the system". I don't know where, but I've seen this happen before.

"Oh, Joel?", I call. "Where did we get these CPU sockets? These look a little different than the ones on the prototype boards."

Well, he replies, they're "T&B" sockets ("T&B" is normally good stuff). Special low insertion force sockets.

"Have they ever been tested?", I ask innocently. Silence.

Bingo.

So I go and desolder all 68-damned-pins of the CPU T&B socket, and put in one of the old

sockets from the prototype board run. Plug in the CPU, the board starts working. I was right; it WAS a bad socket.

That's right, 100 bad CPU sockets. Turns out these are REAL weird chip sockets. You've got to have them soldered in with these little metal arms closed, instead of open, and when you put the chip in, you've got to pick up on the plastic part of the socket about 1/8". No kidding. (All the electrical engineer types out there are saying, huh?). And if you don't do this... why, the socket pins bend for good, don't make firm contact with the CPU, which messes up the bus, and in this case happened to make it look like a bad RAM chip.

BIG TROUBLES. Desoldering these sockets is NOT trivial; it takes quite a few minutes per socket, even with an "automatic" desoldering tool.

So we call the production line, tell them to halt production while we straighten this mess out, get on the phone, and have a bunch of new sockets Federal Expressed in. I call up Western Digital about their "compatible" 92C32; of course, they don't return the calls. (What do you expect?) Their technical documentation dpeartment, which is secretly being paid by the competition to make WD look bad, does sort of hesitantly mention that while the WD92C32 is "absolutely" compatible with the 9216, "they did the opportunity to clean up some of the parameters."

We find out that SMC still makes the "obsolete" 9216, and order up a pile of chips from them.

Sandy, my wife, goes home at this point; enough is enough. Bad sockets? Sheesh.

(Those of you with early ST's might recall having to re-seat your chips in those sockets as well. While not the same, the problem is similar. I'm afraid I have some sympathy for Atari on this one now. Atari put doublestick tape under the chips to hold them in, which had the effect of holding the chips up high enough that they could work their way out of the sockets.)

The Next Try

About this point, the first impatient customers begin to call. "Where's my Translator?", they ask. "You promised it for October." Well, we're having problems, we reply, and every phone call we take is another few minutes spent not handling problems. (Put it this way: if we answer a phone call, we've made one happy customer. If we get these things out of the door, we have 500 happy customers. What would you do?)

We take the old 100 boards back for R&R and chipchange. (The last of the CPU sockets were finally replaced in *January*; that's how long it took to desolder and swap them). A new run of 250 boards was made; it's now early December. Oh joy, oh joy, they work from the assembly line. In fact, we know they work right off the assembly line, because I'm sitting up there on the line TESTING them; our lateness had fouled up the production schedule. So two ST's and I went up to the board place and sat there testing Translator boards. Most worked fine, which is what you'd expect.

I get a few boards, finally hustle them off to my brave Beta Testers (who've endured no end of trouble at my hands; I wonder why they put up with it?)... they seem to work fine. Formatting's a little weird, but maybe that's because the Mac format is harder on disks then the usual ST format. More sensitive to error.

For the record, the Beta Testers were: Mark Booth, Norm Walker, Jeff Greenblatt, Bruce Ragovin, and Sandy Wilson. Thanks, people.

Many late nights of packing up Translators follow; we send them out, assembled & tested. About 250 went out this way; there were lots of 2 to 3 AM nights there with everyone in the office pitching in.

For casual recreation through this period, I wrote the Translator manual; I took out a lot of frustration on this manual, which was fun for me. This manual ended up being read lots more than computer manuals normally do, because it was fun to read. It's got all sort of rowdiness and strange things within. (Perhaps my favorite part was where the person editing the manual breaks into an impromptu conversation with the writer, midway through... well, you'll have to see it to understand).

Out go the Translators. Three days later, the phone starts ringing, and ringing, and ringing. Basically, there are a lot of them that simply don't work.

By now, the remaining hair on my head is being pulled out. What's wrong? I tested every one of the things by hand. *I know they work*. And my customers *know they don't work*.

Next Try

One big problem was disk formatting. Lots of people couldn't get a format to work. In

fact, it would format 16 tracks out of the 80 (you could feel the head stepping), and stop.

We puzzled with this for awhile. Was the program in the Translator crashing after 16 tracks? Was the stack overflowing? Was the moon full? Lots of possibilities went through our minds. By now, Dan Moore, my programmer-whiz friend, and I are starting to resemble zombies, too many late nights, too much caffeine.

Something lit up in the dazed fumbling pair of neurons still clicking in my mind. 16 tracks is where the first speed change occurs on Mac disks. I had someone with a dead Translator send in a disk he'd formatted, and sure enough; it was an RPM problem. I'd seen this once before, a long long time ago, on a disk duplicator for LE Systems. (Experience, experience...)

See, when you format a disk, you write out about 6,000 bytes worth of data per track. The track is circular. Now what happens if you write a little too much data? The disk completes the spin, and you over-write, and thus clobber, the start of the track. Now on normal disks, the "index pulse" keeps this from happening, but Mac disks don't use the "index pulse" to mark the beginning and end of the track....

This is what was happening. Sector #0 (not 1, this is a Mac format), was getting overlayed by Sector #12, the last one on the track. This only happened on disk drives running at 305 or more RPM; factory spec is 300 +/- 3 RPM. Of course, our in-house drives were running at 300 RPM, so we never saw the problem. (Why, oh why, couldn't I have had a bad drive... Only a developer would pray for a bad system.)

This, by the way, is why 11-sector formatters are not reliable on some people's ST's; the drives are just spinning too fast, and you can't get all 11 sectors down in one revolution at >305 RPM. Or if you try to read on a friend's system, your friend's drive may be spinning too fast and clobber the end of the 11th sector, so you can't interchange disks. Atari won't even go 10 sectors, as they feel they need that extra 512 bytes of gap at the end of the track.

Scariest of all are the drives that vary in speed, either slowly, as they warm up, or at high speed, by fluttering.

It was possible to fix this one in software; I could just speed up the rate the data was output, so I would always finish up a track in time, even on a 320 RPM drive. (I tested it on a drive spinning 320). Dan Moore wrote a darn nice speed checker; we uploaded it to various networks, and sure enough, most people with troubles had high RPM drives.

Well, the change was pretty easy to make, as it turned out; just write the data a little more quickly, and all is well. It's not a problem if the drive is too slow, just too fast. We had to go from Revision 14 of the ROM (which is really about version 168 of the Translator software; I only started numbering them when I got close) to Revision 15.

But a ROM change isn't something that can be done in the field. So lots of Translators reappeared on our doorway, through the magic of UPS.

To fix the problem, you've got to change the Translator's program. This program is stored on an ROM, a read-only memory, a neat device that lets you permanently store a program on a chip. This program survives poweroff, like a disk or a game cartridge. Atari game cartridges and Apple's ROMs are examples of this.

We used EPROM's (eraseable programmable read-only-memory), though, because they *eraseable*; if you make a mistake (imagine that), you can erase the old program and put a new one in. This is much better than on a plain old ROM, where it can't be changed if need be, and you just have to throw away old ROM chips...

So I went to begin the big erasing run for 250 chips ... and found out a horrible. Oops, the suppliers didn't give us EPROMS, they gave us ROMs. Supply misunderstanding. These ROMs just became completely useless to us; the program on a ROM cannot be changed.

On to the phone again. Yes, they gave us the wrong chips. They agree to take them back, which is mighty good of them, at several dollars per chip (500 chips). They'll give us EPROMs.

We begin "burning", or writing the program into, these new EPROMs. This process takes several minutes per chip. And we begin opening up units, replacing the ROMs with the new EPROMs, and closing them back up. This takes some time per unit; lots of 2-3 AM nights. Susan at dP in particular showed dedication above and beyond doing this, night after night. In came the Translators, out went the Translators -- same day turnaround. We impressed a lot of people with the speed we'd get them back...

Next Month: Part 2: The Nightmare Continues

SDI COMPUTING

Star Wars and the ST

by Chris Anderson

Last month David Small, the Magic Sac guru, fantasized on the use of ST's as control terminals for Star Wars, President Reagan's proposed high-tech missile defense program. One can see Small's point. The ST is fast, powerful and smartly styled with attractively slanted function keys and a trim profile. Star Wars would be a lot more fun with a couple ST'S behind it.

Star Wars (officially known as the Strategic Defensive Initiative, or SDI) would be one of the most daunting technical projects ever attempted by man. Although it is only in the "demonstration validation" stage, it already consumes $4.5 billion a year in basic research, with little promise of anything approaching a defense shield ever emerging. The daunting complexity of the task -- shooting down Soviet nuclear missiles before they reach the United States -- dwarfs the challenges of setting foot on the moon and developing the atom bomb by "several orders of magnitude" (the physicist's way of saying "more than I care to think about").

A Pentagon study estimates that the software, alone, for Star Wars could take over 80,000 man-years to write and run from 10 to 100 million lines of assembly language code. Worst of all, its reliability will always be uncertain. As uncertain as any huge, unprecedented, untested program to which the lives of 100 million Americans have been entrusted.

The Pentagon study, however, overlooked the ST. As usual, Atari was relegated to less than a footnote, perhaps by the Joint Chiefs of Staff who think of it as a "game machine." Nor does the ST appear anywhere in the hundreds of pages of Congressional testimony on Star Wars computing, an omission due, no doubt, to Atari's patent refusal to run ST television advertising. Perhaps the SDI Organization (SDIO) is still waiting for the release of the fabled blitter chip before it endorses the ST as the Star Wars savior.

But, even if they had considered the ST, there's no promise that the conclusion would have been different.

The President's own Commission on Strategic Forces has stated that "applications of current technology offer no real promise of being able to defend the United States against massive nuclear attack in this century." Independent studies have been even more critical.

Star Wars, as it is now envisioned, would have to spot, recognize, track and destroy thousands of Soviet warheads before they reach the United States. It must not be fooled by decoys and dummies designed to confuse it. It must be cheaper to deploy than it is to overcome and, perhaps the most daunting demand of all, it must be reliable.

To most Americans, the acronym SDI calls up a mental picture of lasers and orbiting "battle stations." Small wonder that it was immediately given the "Star Wars" moniker by a skeptical press soon after its 1983 birth in a Reagan nationwide address. It appeals to the modern craving for technology. It would take our national defense out of the murky world of politics, diplomacy and Mutually Assured Destruction (MAD) and put it in the trusted hands of science.

Science has responded mostly with bafflement. Experts throughout the community have expressed the opinion that some of Star Wars technical problems, with software leading the list, are beyond even theoretical solution. Many more, they say, are unapproachable by any conceivable technology in this century.

SDIO officials respond by pointing to the Wright brothers and their like while reminding critics that naysayers can always be found around ambitious technical projects. They draw attention to polls that show a popular majority not only in favor of SDI, but of the belief that it already exists.

Americans have been spoiled by a seemingly endless stream of technological successes. We forget that by 1990 we were supposed to be commuting to work in our electric cars if not living in space. Computers are especially guilty of promising more than they have delivered. The '60s vision of a digital panacea has given way to incompatibilities, disk errors and TOS bombs.

As computers evolved a harsh programming reality emerged. Not only are many problems not worth the effort needed to program their solution, but some can't be solved at all. An increasing number of industry experts put SDI computing in this category.

Because SDI would consist of many separate parts, connected and controlled by a network of computers, deployment hinges on the development of a mature and bugproof operating system. While

advanced technologies like particle beams and exotic lasers could be deployed long after more basic weapons like missiles and guns, the control and sensing network must be essentially complete and reliable from the start.

With that task (and the unlikelihood of achieving it with existing methods) in mind, SDIO's computing experts have proposed several software techniques that they hope will prove to be the program's salvation.

Artificial Intelligence (AI). AI (in addition to being the 80's buzz word of choice) is rule-based programming. If the programmer knows all the rules, he can write a program that will respond correctly to any situation. Space defense is, for the most part, an uncharted territory with a constantly changing Soviet opposition. Very little is known about the "rules" of such a conflict.

David Parnas, a software expert who resigned from the SDIO Computing Panel, concluded, "This approach usually yields a program whose behavior is poorly understood and hard to predict. AI offers no magic technology to solve our problem."

Neural Networks. Neural networks are a combination of hardware and software designed to function much like a brain. A neural processor consists of many "nodes" which operate in tandem to learn how to solve a problem. A neural computer is, ideally, taught, not programmed.

Theoretically, this is the most promising technology, but one still in its infancy. Current research has focused on the simulation of a slug's brain (one of the simplest known), with some success. Scientists say emulation of a human brain is too far away to responsibly speculate on.

Even if neural technology does grow at an unforeseen rate and becomes viable in the near future, it may not help much. Most of the Star Wars computing, such as predicting trajectories and identifying targets, is intensively mathematical. Neural networks, like humans, are terrible at floating-point math.

"Automatic Programming" In 1940, a defense researcher named Saul Gorn wrote a classified paper entitled "Is Automatic Programming Feasible?" He concluded that it was. The automatic programming system Gorn considered was what we now call an assembler. Since then several other languages (such as FORTRAN and (ALGOL) have been developed in response to a call for automatic programming.

The term is, in general, a euphemism for programming in a high-level language. As such, it is subject to the restriction that the program must be a representation of an algorithm. The algorithm is, of course, the problem. Automatic programming is of no help there.

Fault-Tolerant Software. No program of any large size has ever run perfectly the first time. One chance is, however, all that Star Wars will get. Full testing is out of the question., Simply guidance and navigation software contains 10 to the 18th possible paths. Testing each path would take over 330,000 years. Star Wars software is several orders of magnitude more complicated than a guidance system.

Fault-tolerant software would allow the system to continue functioning even in the presence of inevitable errors. Three techniques usually fall under the fault-tolerant domain:

1) Operational Redundancy is the inclusion of special code to look for errors. The error-finding code demands a certain processing overhead whether there is an error or not.

2) Temporal Redundancy is the transfer of program flow to a different version of a software module following the detection of an error. The programmer must write at least two different versions of each critical module, with as different an algorithm as possible.

3) Spatial Redundancy is the inclusion of multiple versions of each critical piece of code. All versions execute and some form of voting determines which result is chosen. Again, considerable programmer time is required to write the additional code.

At its most basic, this technique establishes "fire walls" to contain errors before they contaminate the entire system. More elaborate applications, like spatial redundancy, can actually ignore errors if they arrive infrequently enough. All the fault-tolerant methods increase programming complexity and processing overhead, sometimes by factors of ten. None of them assure that the software will perform as intended when confronted with an intentionally deceptive advesary.

The bottom line, writes Herbert Lin, a long-time software expert, in Scientific American, is that even if the software can be written, it can't be trusted. He wrote, "A comprehensive ballistic defense requires not only that the software operate properly the first time, in an unpredictable environment and without large-scale empirical testing, but also that [we] are positive that it will do so. No software-engineering technology can be anticipated that will support [this] goal." Not an ST (which can't even keep the bombs off its own screen), not a Mac, not even an ABAQ.

ST WRITER Q & A

Answers To Most Frequently Asked Questions

by Bruce D. Noonan, M.D.

Ever since *ST Writer Elite* appeared in the pages of START magazine, I have been besieged with questions and problems, both by letter and electronic mail, concerning its use. Four of the most asked questions are discussed here. Hopefully, this will serve to give me a break from answering the same questions over and over.

Why Doesn't Line No. Work?

First of all, *ST Writer Elite* (*SWE*) does not have line numbers in the text file. This is because *SWE* is NOT a WYSIWYG (What You See Is What You Get) word processor. In those word processors, each line is formatted in the editor by the user BEFORE printing. *SWE*, on the other hand, displays text in either 40 or 80 column mode, depending upon resolution, and the final formatted document is dependent upon the margin settings and print pitch you select. Formatting does not take place in the editor, but occurs AFTER you tell *SWE* to print.

Therefore, the line and column counters in the box at the bottom of the screen DO NOT reflect the actual line and column on the printed page. They are intended as a guide to cursor position on the screen only.

So what use are they? Well, they are for setting up tables and checking margins when there is a lot of "white space" (or, "black space" if you prefer white letters on black, as I do). You can check the column on one line, move to another and set the column so that it lines up with the first by checking the value in the column counter.

For those who wanted some idea of their position in the file, I included a function by typing [ALT]+[=]. This will return the byte position of the cursor. A rough word count can be determined by dividing the result by 6.

Why Doesn't CONTROL+O Work?

On *AtariWriter* for the 8-bits, you can immediately send the decimal number following ^O [Control+O] directly to the printer during printing. With *ST Writer Elite*, however, the entire "page" is first laid out in computer memory (formatted) before characters are sent to the printer. During the "formatting", any ^O codes are immediately sent to the printer. Only after the page is formatted is the rest of the text sent to the printer. The use of ^O is intended to send codes which affect an entire page or the entire document such as a command to set the number of lines per inch. Another example might be a command to select a different character set. This presents a problem for owners of printers which do not allow simultaneous access to English and foreign character sets. If the foreign set is selected, everything on the page will be in the foreign set, and vice versa. (My solution is to get a printer with 256 character capability.)

Joe Waters came up with a good solution in *CURRENT NOTES* to partially fix this dilemma when you just HAVE to send a code to the printer during printing. Use the character translation table in the printer driver file (CONFIG.TXT) to re-define a character, such as the "¦" (decimal 124, hex 0x7c) or some other infrequently used character, to the <ESC> character (decimal 27, hex 0x1b). [*To do this, change the 124th number in the table from 0x7c to 0x1b. -JW*] Thus, whenever a "¦" is sent to the printer, it will be changed by the translation table magically into a 27, and the printer will see it as signaling a control code. The next character MUST be the ASCII equivalent of the decimal number the printer is to get following the <ESC>. This is known as an "Escape sequence".

If you wanted to send a code to select a "download character set" you may also need to re-define some other characters to be decimal 0 and decimal 1. For example, you might redefine "{" as "0", and "}" as "1" in the translation table in CONFIG.TXT. Thus, if the printer command to download characters consisted of the three decimal numbers <27>,<31>, and <1>, you would type into the document the sequence ¦%{ (ie., 27,37,1) before the text using downloaded characters, then ¦%} (ie., 27,37,0) afterwards, to cancel the download character set. The drawback of this method is that the text line containing the ¦ and following code(s) will be shortened by that many characters in the printout.

How Do I Cancel Subscripts?

The third major problem involves cancelling sub- and super-scripts. In order to be "True" to Atari, *SWE* uses the sequence <ESC>H to cancel them, but every other Epson compatible printer uses the sequence <ESC>T. You can fix this by creating your own printer driver file. The

procedure is as follows:

Run SIWRITER.PRG

Load the file CONFIG.TXT

Edit the file, being sure the proper codes are entered to cancel sub- and super-scripts. For Epson printers, this is <ESC>T, i.e. 27,84. REMEMBER -- each section must contain 8 numbers, eg., 27,84,255,255,255,255,255,255. The 255's are just place holders, and are for printers which may require up to 8 codes to implement a function.

Save the file on disk.

Quit *SWE* and return to the desktop.

Run CONFIG.TOS. This program reads the CONFIG.TXT file you just saved, and creates a printer driver file on disk called XYZZX.DAT. This file must be in the same directory or folder as SIWRITER.PRG, or it will not be loaded when you run SIWRITER.PRG.

How Do I Save an ASCII File?

The fourth and final question involves saving ASCII files. This can be accomplished in two ways. The first involves Printing to disk. I try to set the Top and Bottom margins to 0; Left to 1, and Right to 39 or 79, depending upon the resolution the text is to be displayed in on the screen.

If the text is to be used by another word processor, a second method requires that you first change the <CR> character to ^M (Control+M), which is ASCII 13, the carriage return understood by the rest of the world. Also, be sure to remove any formatting commands, including the format line at the top of the file. In this case, don't Print the file to disk, but Save it. You will have to remove the DO RUN RUN SIWRITER.PRG header and tab data from the beginning of the file after loading into the other word processor, but the text will be intact.

I hope that this will answer a lot of questions regarding the use of *ST Writer Elite*. Good luck.

[*Bruce has completed another version of ST Writer, Version 2.52. Besides fixing a few more bugs, the latest version allows for multiple printer drivers. This feature is a welcome addition for those with more than one printer. It is now available on CN disk #176. -JW*]

ADVENTURES IN THE MAGIC SACDOM

By Jeff Greenblatt

VERSION 5.9 and HFS-PART II

In last month's article, I discussed the merits of using the Macintosh HFS file management system using version 5.9 of the Magic Sac software. This month I will discuss how to set your system up for HFS use.

Floppy Disk Setup

If you are using a floppy disk based system, the setup is very straight forward. The first thing you will need is an MFS formatted Magic startup disk with Finder 5.3 and System 3.2 on it. Boot your system up to the Mac desktop and assuming you have the file Hard Disk 20 on another disk, copy it to the System Folder of this startup disk. Be sure you have version 1.1 of Hard Disk 20. If you are not sure what version you have, use GET INFO under the FILE pull-down menu to find out what version it is. (See last months article for a source of Hard Disk 20.) Now eject your disks and reboot the ST. Finder 5.3 has an eject bug in it. So, the only way to eject a disk is to drag its icon to the TRASH CAN. Don't worry, it won't trash your disk.

Now that you are back to TOS, run MCFORMAT found on the Magic 5.9 disk from Data Pacific. Format a couple of HFS Magic disks (a single sided and a double sided disk will do).

Now run lMAGIC5 and click on save configuration. Go back to the TOS desktop and run JUSTGO. When it asks for the startup disk, remove the Magic 5.9 disk and insert the Magic startup disk with Hard Disk 20 on it, and press any key. If everything goes right, you should first see the Happy Mac icon, then the Welcome to Macintosh screen, then Hard Disk 20 Startup will appear under Welcome to Macintosh, and finally you will be up on the Mac desktop. (If it locks up at Welcome to Macintosh/Hard Disk 20 Startup, you most likely have a Hard Disk 20 file or Finder which has been frozen to a different memory size configuration.)

You are now ready to insert the HSF format disks we created earlier. When they are inserted, the disk icon should appear with the name EMPTY HFS DISK. Try copying the same file to different folders on the HFS disk.

In order to use HFS with a floppy disk based system, you must ALWAYS boot the system up with a MFS startup disk. Once you are on the desktop, you can switch systems to an HFS disk and eject the MFS startup disk. Hard Disk 20 will remain in the system until you power down the ST; very much like Desk Accessories behave with TOS.

Hard Disk Setup

There are two ways to use HFS on a Hard Disk system. The first is to boot from a floppy into the hard disk; the second way is to boot directly from the hard disk. Although the second way is the most convenient one, it's also the most cumbersome one to set up. I mention the first way only because it can be done and it is actually part of the procedure to boot off the hard disk directly. If you don't execute the following instructions exactly, the system will crash when you boot up.

The first thing you will need to do is to create two Magic MFS formatted floppies. Disk 1 will have Finder 5.4/System 3.2 on it. Disk 2 will have Finder 5.3/System 3.2 and Hard Disk 20 (version 1.1) on it. System 3.2 of Disk 2 should be a minimum system file. Use Font/DA Mover to remove all fonts except the four system fonts. If you are not sure which are the system fonts, try removing them all, Font/DA Mover won't let you remove the system fonts. Also use Font/DA Mover to remove all Desk Accessories except for one. It doesn't matter which DA you leave, just keep it as small as possible. KEYCAPS is a good one to leave in the system.

The second thing that has to be done is to format at least two partitions for Magic Sac use. For most of you this will require that the entire hard disk be reformatted. The first partition will be MFS, and the second partition will be HFS. More about this difference later. Before you format the partition you must plan the layout of them recognizing that the MAGICHD software only will format the first four partitions of a hard drive. If you are using Supra's Hard Disk software, they allow formatting beyond four partitions.

The best way to illustrate how to setup a hard disk for HFS is to use an example, so let's assume we have a 20 meg hard disk and we will have two TOS (GEM) partitions and two Magic (ACK) partitions. The two TOS partitions will be 5 meg each and the Magic partitions will be 300K and 10.46 meg respectively.

Use your TOS hard disk formatter and create the four partitions described in the previous paragraph. The partitions will be C, D, E, and F; partitions E (300K) and F (10.46 Meg) will be our Magic partitions. Now use MAGICHD to format the 3rd partition as MFS and the 4th partition as HFS. Now go back to the TOS desktop.

Now run lMAGIC5 and click on Enable Hard Disk, but DON'T click on Boot From HD yet. Now click on the Magic button and, at the prompt, insert Disk 1 in drive A and press any key. Once you are up on the Mac desktop, press Shift-F3 to bring up the 300K MFS partition. The disk icon should be labelled Magic HD 1.

If you have two drives, insert Disk 2 into drive B, otherwise eject Disk 1 and insert Disk 2 into drive A. Now copy Finder 5.3/System 3.2 and Hard Disk 20 from Disk 2 into the MFS Magic HD 1 partition. Eject all disks and the partition by dragging them (the disk icons, that is) to the TRASH CAN icon. Now power down the ST and run lMAGIC5 again.

Again, click on Enable Hard Disk, but DON'T click on Boot From HD yet. Click on the Magic button and this time use Disk 2 as the startup disk at the prompt and press any key. At this point you should first see the Happy Mac icon, then the Welcome to Macintosh screen, then Hard Disk 20 Startup will appear under Welcome to Macintosh, and finally, a flashing "A" prompt will appear at the top of the screen.

Now eject Disk 2 and press F1 if the flashing "A" doesn't disappear. At this point you should be on the Mac desktop with the Magic HD 1 (MFS) partition on the screen. Now press Shift-F4 to bring up the icon named Magic HFS HD 2. Insert Disk 1 into drive A and copy Finder 5.4/ System 3.2 into a System Folder on the Magic HFS HD 2 partition. We are almost there now. Power down the ST and run lMAGIC5 for the last time.

This time click on Enable Hard Disk and Boot From HD, and Save Configuration. Now go back to TOS and run JUSTGO. If everything went right, you should be up on the Mac desktop with the Magic HFS HD 2 icon on the screen. Now that wasn't too difficult, was it?

Notice that the first partition didn't appear on the screen. Actually, it did, but you didn't realize it. When JUSTGO is run, the first partition was used but when Hard Disk 20 Startup appears on the screen, it automatically ejects the first MFS partition and moves into the second HFS partition. That is why the first partition is only 300K - no need to waste valuable hard disk space on a partition that is tossed away. If you ever need to get to it, simply press Shift-F3 and it will appear.

I hope this two-part article was of some help to those of you who were having trouble setting your system up for HFS use or didn't know how to do it. Actually, there was a method to this madness. I have been fielding so many tech support calls on this subject I am about to answer the phone with "Data Pacific East". If you do need tech support, call Data Pacific at their new tech support number which is 303-733-8158, 12:00N - 4:30PM MST, Monday-Wednesday-Friday.

New Library Disks

This month two new disks have been added to the CURRENT NOTES Magic Library.

Here is the run down:

Disk M46, DA Disk #2, contains 35 new Desk Accessories. Due to the number of files on this disk, only the names of the files will be listed. They are 3D Tic-Tac-Toe, A-Bus ID Poker, Abacus, Calendar, CheapPaint, Collapse, ConCode, Crabs2, DAFile, DAFont, Display Message, Double Apple, Executive Decision, FatMouse, FixPic 2.0, Flow, Fun House, Function Keys, Font, Idle, KeyMouse, KnockOut, Multi-Scrap, MW to Text, New MiniDos, Original Clock, PaintDA, Poker Game, ProCount, Ruler, Tiler 1.5, Timelogger 2.11, Utilities, Wrap, WXModem and a super application entitled Sample It. Sample It is a multipurpose tester for DAs, FKeys, Fonts, MacPaint and MacDraw format files. Some of the DAs on this disk come with documentation files.

Disk M47, Graphics #4, contains 8 very exciting graphic application and demonstration type files. *Cursor Designer* does just that - design your own cursor and save it for immediate use. *Earthplot 3.0* shows you what the earth looks like after you choose the distance, longitude and latitude. *Graphics 2.0* allows you to create your own endless graphic patterns using any variables you want and comes with a documentation file. *Mondrian 1.0* is a graphics demonstration and comes with a documentation file. *MotionMaker 2.0* allows you to create your own movies, has many features including its own graphic movie icons, and comes with a documentation file. *Moving Finger* is a neat application that allows you to create as many as 40 different graphic images and then dissolve between them. It is absolutely fascinating to watch *Moving Finger* in action, and it comes with a documentation file. *Wallpaper* creates many interesting graphic patterns. *Zoomation* is another one of those graphic pattern makers using predefined geometric shapes.

SO YOU JUST BOUGHT AN ATARI ST??

Your First Public Domain Disk

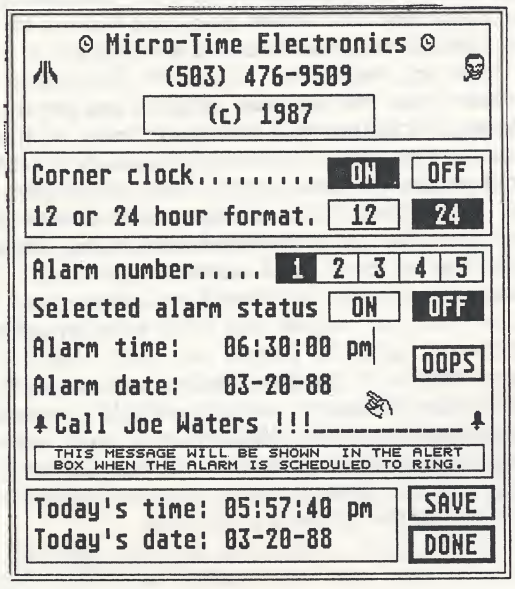
by J. Andrzej Wrotniak

Here is an idea we came across with Joe Waters during one of our traditional midnight phone chats (can you imagine I've first seen our Publisher after a year of knowing him?): the basic public domain disk for a new ST owner (and maybe not only).

Are you a new ST user, lost in the ocean of public domain software? This is a disk for you, containing just few utilities and desktop accessories, which may make your life easier or more enjoyable.

My choice was based on very simple criteria: the programs had to be dependable, easy to use and well-proven - I have used each of them for at least six months. There are more powerful, or nicer-looking programs available; I have seen them around, still - I am sticking to the familiar, take it or leave it. [*Andrzej's disk is available as ON #220. -JW*]

Micro-Time AlarmClock. Shareware, copyright 1987 by Micro-Time Electronics, Grand Pass, Oregon. A no-nonsense, well-designed and implemented time/date setting accessory; displays also a corner clock and may raise alarms - if you wish so. Be sure to enter the date and time in proper format, and for heaven's sake, do it always, if you do not have a battery-operated clock: your files will be date-stamped, which may save you a lot of trouble.



Related files: ALARMCLK.ACC (the accessory itself), ALARMCLK.RSC (resource file for use with monochrome monitors), ALARMCLC.RSC (the same for color) ALARMCLK.DAT (a set-up file), ALARMCLK.DOC (instruction, just in case you need it, though the program is self-explanatory). Depending on what monitor you use, one of the RSC files may be deleted.

SI RAMdisk and Printer Buffer. Another nice, well-designed and dependable accessory from Grand Pass, Oregon. Shareware, copyright by a very readable ST-dedicated monthly, ST Informer, and written by the same programmer as AlarmClock. They seem to have some good programmers there.

The printer buffer will allow you to send the file to be printed out and use your computer for anything else while the printer is busy. Of course, it would cost you some memory, but this can be recovered after the printing job is done.

The RAMdisk will - again - take some of your memory, making your ST think, that it is another disk drive. My 11-years old ST co-hobbyist, Luke, is using the RAMdisk all the time to copy files between floppies on a single-drive system: open a RAMdisk, copy to it the files from your floppy, insert another (formatted!!!) floppy, copy to it files from the RAMdisk. You will avoid blisters on your fingers from dozens of disk swaps! When the RAMdisk is not needed any more, its memory may be released back (which sometimes requires a little trick, due to the GEM misbehaviour). Related files: SI_RAM.ACC (the accessory itself), SI_RAM.RSC (resource, for both resolutions), SI_RAM.DOC (instruction).

Clock/Calendar. A desktop accessory sweep-hand clock and calendar by Gordan Palameta. May be also used to set date and time (no corner clock, though), and to compute number of days between dates (also to impress your friends who own or use PC-compatibles). Very nicely done. Files: KALKLOCK.ACC, KALKLOCK.DOC.

ASCII Printout. Program and desktop accessory, (c) 1987 by yours humbly. To set up your printer parameters (print density, margin etc.) and to queue up to 20 files to print before going for lunch. The printout can be suspended or aborted (current file or all), and an optional header (file name, date and page number) may be added at the top of each page. Default printer configurations are provided.

This is an ASCII printer, what means it will print only files containing just the text, with no formatting codes: if the file is viewable by double-clicking from the desktop, it is printable by this program (so the First Word files should not be printed with it). Program can be configured for any printer: it reads a data file, and files for three printers are provided.

Files: AW_PRINT.PRG (stand-alone program), AW_PRINT.ACC (desktop accessory) AW_PRINT.RSC (resource file for both, also for both monitors) AW_PRINT.DAT (Panasonic KX-1091i, or Epson FX-compatible data file), LQ800.DAT (Epson LQ data file), OKI192.DAT (Okidata ML 192/193 file), AW_PRINT.DOC (documentation, will tel you how adjust the program to your printer).

DeARChiver. A simple program (shareware) by John M. Tutlis from Lynnwood, WA, to make deARCing of ARCed files as painless and simple as possible.

Most files available for downloading from bulletin boards, CompuServe, GEnie etc. are originally compressed (or ARCed), to save you connection time and charges; after downloading you have to decompress (or deARC) them before using. (More about ARC - see an article by Joe Waters in this issue).

The simplest way to do it is to place DEARC.PRG and ARCX.TTP on the same floppy (or in the same directory) as your downloaded ARCed files, doubleclick, and go to your refrigerator (optional). For each *.ARC file a separate folder will be created, and all related decompressed files will be there. You cannot make it any simpler - or safer: no more name clashes due to everybody including a READ.ME file with his ARCed goodies.

Files: DEARC.PRG (the program), ARCX.TTP (this one does all the hard stuff, being appropriately executed by DEARC), DEARC.DOC. ARC and ARCX were written by Thom Henderson and converted the ST by Harvey Johnson. Thank you, gentlemen!

Disk Manager. A disk accessory allowing for disk operations (copy, rename, delete etc.) from inside of any GEM-based program, if you only can access the menu bar. This may be a very useful capability if suddenly there is not enough space to save your document from a word processor. Shareware, (c) 1986 by Daniel Matejka. DISKMAN.ACC; no documentation (none needed).

Disk Directory Listing Program. This one comes from the STEP BBS, El Paso, Texas. It will list (to the printer or to a disk file) the contents (file names, sizes, dates etc.) of all directories of a disk on the indicated drive. Not a good-looking program, but easy to use and dependable. (Why do I have to choose the disk drive by number and not just by the letter designation?) Program file: CONTENTS.PRG (instructions on the opening screen).

Accessory Selector and Resolution Setter. This program (which has to be in the \AUTO\ folder on the disk you boot from) will allow you to install up to 6 desktop accessories from (practically) any number you have on the disk. It will also let you choose the screen resolution and install an appropriate desktop. (After reading the instructions you will be also able to copy selected files to the auto RAMdisk - if you use one - but let us skip the details). There are quite a few similar ones available; the main reason I use this one is that I wrote it myself.

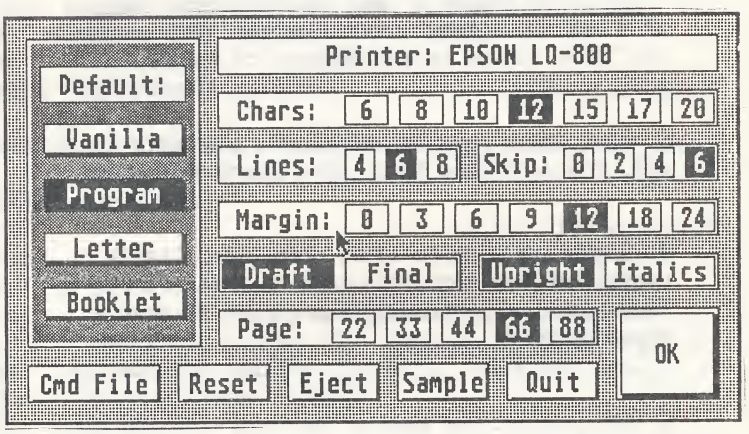
Files: AW_BOOT5.PRG, AW_BOOT5.DOC, DESKTOP.INH, DESKTOP.INM, DESKTOP.INL (desktop files for three resolutions, keep all three on the disk or read the DOC file).

I think you may also need the improved versions of Control Panel and VT-52 Terminal Emulator, which were included with your ST. These two (copyright 1987 by Atari Corporation) replace the old ones, if you really want to use them. The new Control Panel now occupies just one Desk menu entry (no separate Set Printer option). I was surprised to see, how many people around are still using the old versions.

The CURRENT NOTES PD Library disk is single-sided and you can boot from it (the write-protect opening in the corner should be closed). Preferably make a backup first.

The last letter of some .ACC name extensions (and of the DESKTOP ones, too) may be different than shown above - do not worry. It may be changed when you boot up and make another choices.

And that would be it. Have a happy Easter!



TIPS 'N' TRAPS

By Jim Stevenson

HELP FOR DUNGEON MASTER

Welcome back for Tips 'N' Traps #30. For some unknown reason, Electronic Age has gone down (temporarily?), so for now, concentrate messages to Merlin's Litterbox and ARMUDIC. Just about all that's in this column this time around is solely Dungeon Master - FTL's latest. Anyway, if you have any questions, call:

Me (Jim/Voice only).(703)378-3540
Merlin's Litterbox..(703)250-7303
ARMUDIC.....(703)569-8305

DUNGEON MASTER

Q. I have explored level 6 completely (including recovering the vorpal blade), except that I cannot find the keys for two doors. Can anyone give me a clue? Does anyone remember any particularly well-hidden keys, or doors the key for which is on another level? I've searched high and low, but I simply cannot seem to locate either of the keys. The vorpal blade seems pretty useless right now, although I may like it better as my familiarity with it increases. As it is now, however, I have yet to do more than 2 points of damage in 'cleaving' with it, and I haven't managed to hit ANYTHING when I've tried to 'disrupt'. Perhaps this particular power is meant to be used against immaterial beings.

It is a particularly nasty surprise to find yourself pinned down in a doorway by two pairs of beholders (floating eyes). An observation: Their eyes seem to turn red when they flame you; what does it mean when their eyes turn green? Is this when they use the ZO spell?

-Chris Leonhard

A. Yes, the blade is used on immatterial beings on 8 and 9. I have a sword called "the inquisitor" that causes up to 170 hp's of damage.

-"Elric Stormbringer"

Q. What would rope be used for? I haven't found any, but I noticed that Leyla starts with some.

-Chris Leonhard

A. Ropes are used to climb down pits, that's useful because some pits have an entire level to themselves. Don't worry though you'll find a rope somewhere.

-"Elric Stormbringer"

Q. Did you get the key in the room with the pit, the iron door, and the blue mist?

-"Reforger"

A. Yep. It took me awhile, though. My first guess was that it involved putting something on that pressure plate, but nothing seemed to work. It turns out that the ONLY way to do it is by placing something in that mist from one particular place. But I DID get it (eventually).

-Chris Leonhard

Q. Are there any particularly useful items on that level like the Vorpal Blade (which I got, although those stupid mists were pretty annoying)? I'd hate to abandon something, but I guess I don't have much choice now, since I already seem to have used the key. I'll bet it's armor, since there seems to be a lot of it on this level....

-Chris Leonhard

A. No, if I remember right, there is not much useful on that level, though if you want great armor, you can get full plate from killing knights. Also, I went and opened all the doors to the firestaff level and inside are a bunch of emerald doors, I was able to open one and got some chainmail called "flamebain" so I guess it's flame resistant, I've got all my guys wearing plate now.

-"Elric Stormbringer"

Q. To anyone who has finished the game: were you able to kill the dragon?

-"Elric Stormbringer"

Q. I finally found out what I'm trying to kill: Lord Chaos. Does anyone know an easy way to kil him? I'm tired of sitting there and shooting things at him.

-"Elric Stormbringer"

Q. Have you gotten down past level 10 yet? Specifically, the section called ZOOOOOM? Is there anything really valuable down there (besides a bomb and some food and drink)

-"Max Quordlepleer

Q. What does the ZOKATHRA spell do? I picked or up, but can't seem to store it anywhere; it won even go into one of my hands, despite the fact that I can pick it up. I threw it at a monster with no apparent effect.

What good is a vorpal blade when you can have a yew staff? Why disrupt when you can dispel? I went into the two symmetric rooms beyond the 'When is a rock not a rock' wall, and found the buttons in the two cracks. The one in the

rightmost room doesn't seem to do anything, though. Don't tell me, though, cause I've only been working on it for 2 or 3 minutes.

What are those thievin' varmints being called? How about the hooded Jawa-types?

I've got several pendants and necklaces now, but don't know what any of them do. Do you ever find out, or are you expected to be able to figure them out on your own?

-Chris Leonhard

A. You need the zokathra spell for the end of the game. Don't worry, though, you can always make a new one. The thieves are called gremlins, and the jawas are wizards.

-"Elric Stormbringer"

Q. Does anyone know what your supposed to do once you get the firestaff and the powergem?

-"Elric Stormbringer"

Q. Am I completely mistaken in thinking that FUL BRONETA was supposed to provide some sort of shield vs. fire? It didn't help one bit in that stupid room. Are there many items with a limited number of 'charges'? I was dismayed when my stormring stopped firing lightning after 4 or 5 bolts.

Should I have done something with that green gem? The scroll said to 'put it back' or something, but I'm too much of klepto to leave gems lying around on the floor. I assume it's not the firegem (optimism springs eternal).

I accidentally found the secret room with the compass on my fourth trip through level 3. This makes me wonder what ELSE I've overlooked.

-Chris Leonhard

Q. (1) What do you do in 'I don't like to be ignored' (after the Room of Riddles)? (2) How would I get to Level 7 since I can't get through the door? (3) Related to question 1, how do you get thru that one wall where you step on a pressure plate and a door opens, but everytime you get off of it, it closes (this is in "I don't like to be ignored").

-"Turbo Lover"

A. There is a secret room in the 'I don't like to be ignored' cavern. Examine the walls for a button. I think there is some armor in the room, but I don't remember exactly.

Don't strain your brain on that panel (in the same cavern) that opens that wall. There is no way to get through that wall. It doesn't matter though, because it opens up on a place you can get to another way. I'm not sure where exactly it is, but the first time I looked there was some thing there, and when I came back later, it was gone. This has been verified by others.

Level 7 is the tomb of the Firestaff. You need Ra keys to open those weird doors. You should have gotten one on your way down. The others lie deeper in the dungeon.

-Chris Leonhard

A. (1) Ignore it. (2) Look around for another key or two. They're there. (3) Don't sweat it. Once you get past the door, you'll get to the same place anyway.

-"Reforger"

Q. Anybody know a better way to kill the cursed knights on Level 12 then to just stand toe-to-toe with them? It takes FOREVER to kill the guy behind the golden doors (in fact, I'm not sure he CAN be killed, though I managed to knock off one of the others).

-"Reforger"

A. I make them follow me past "the invisible pits" and then open the pits.

-"Jack Flack"

Q. Is it absolutely necessary to have the vorpal blade to kill water and fire elementals? I am on level 12-13 now and don't feel like going all the way back if I don't have to.

-"Raven"

A. No, it's not ABSOLUTELY necessary. There're other things, like some of the staffs and the old-standby DES EW spell that can do 'em in. But the staffs lose potency, and you may run out of mana before you run out of elemental ... so if you're on your way to Levels 5 or 6, look around.

-"Reforger"

Q. There are a couple of doors on level 11 which I am having difficulty in opening. They don't have buttons, keyholes, or pressure plates. I can't seem to force them with MON ZO spells. I can't chop them down with Hardcleave or Diamondedge. Any advice?]

-Chris Leonhard

A. Those are the doors leading to the other two Cross Key areas. You really don't need to get into them.

-"Max Quordlepleen"

Q. On Level 6, how do you get past "Test Your strength" where the field throws you back to where you entered it? Anyways, I couldn't solve this part. If you can help, leave the message very explicit, PLEASE!

Anyways, I'm stuck on Level 8 and 9. I've found the stormring, the Eye ring, the green gem, and

even made it through that one long corridor where if you go too far, it throws you back where you started from in the corridor (I left a trail of weapons and it worked so I was able to find the secret hallway). I've found and used the one skullkey I found.

-"Turbo Lover"

Q. On the level with the tomb, how do you get the second key beyond the closing door?

-Ken Jackson

STARCROSS

Q. Can anybody give me a hint on getting either the red rod or the blue rod?

-"Stainless Steel Rat"

A. Red rod: the only way to get this one is to break up the nest. This can be done without getting too close. Blue rod: Remember the teleport disks? That ball can almost touch the ground. And with a little weight on it, it can.

-"Max Quordlepleen"

BALLYHOO

Q. After a long break, I have decided to re-play Ballyhoo. I have gotten through both turnstiles, found the alternate way by Harry's turnstile, got the newsprint, the whip, the keys, the mousetrap, the radio, and the outfit. Now, I am hopelessly stuck! Also, I remember someone mentioning finding a frozen chocolate covered banana, and also not being able to get Tina's radio. I tried bribery with the cheese, but it didn't work (she doesn't like cheese. Perhaps the banana? Also, what's the point of the newsprint? And how do I get by the elephant? I tried getting a mouse to come, and I also threw the trap at the elephant, but no go.

-"The Archer"

STAR TREK

Q. I got to the blue gate in the Promethean Prophecy. Spock has the blue gown I got from Weelomin the trader but I can't get into the blue gate myself. It always says "There are some things a captain should do or himself." I think it has something to do with the Chanter that always runs past with a gown too large for him. Am I correct? Or, what am I missing?

-John Sloane

POLICE QUEST

Q. Is there any way to check evidence out of the evidence room? And if not, how can I find evidence that will convince the judge to give me a No Bail Warrant on that punk?

-"Max Quordlepleen"

Q. Where's the IR key, anyway? I can't find it anywhere.

-"Max Quordlepleen"

A. The IR key is on Level 7. There's a button along the secret passage that leads from the Storeroom.

-"Reforger"

A. Actually, the key for the IR keyhole is called a Winged Key. It is somewhere in the Gray Lord's laboratory.

-Chris Leonhard

BARBARIAN

Q. Does anyone know how to get past Necron? If so, please tell me.

-"Barracks Rat"

A. Ok, after you kill the Red Dragon (and you must kill the Dragon in order to kill Necron), you go straight across to the right. Watch out for the little statue with the blade. It'll get you unless you're immortalized. Get the shield, and when you confront Necron, put the mouse on top of the DEFEND icon when he throws a fire ball at you. It should deflect and hit Necron. Once Necron is dead, get the gem, throw it in the volcano (which is done automatically), and leave exactly the way you came in. That's right...you have to do it all over again in reverse.

-Jim Stevenson Jr.

THE GAME CART

By Joe Pietrafesa

Q I X and E T

[*We are introducing this new column with a pair of reviews of two older Atari cartridge titles still available in stores and by mail order. In the future we will be presenting reviews of newer cartridges, but will continue to feature some of the classic games for all the new XE Game System owners. -LP*]

QIX

An Arcade Classic

In its documentaion Atari states that "No matter how many video games you've played, you've never seen another game like QIX." For once the people who write these statements have not exaggerated. Action packed, unique, and challenging are only a few of the words to describe the playability of this game.

The object of QIX is to build boxes in order to gain points. The game starts out as one big box. Your job is to cover 75% of the large box without getting hit by the QIX and his side-kicks. You can create boxes by moving your joystick up, down, left, or right. All moves depend on where you are located (e.g., you can't move up if you're already at the top). After moving, you must try to connect the lines so as to make a box. Once the lines are connected, the box will be shaded in to show that it has been covered. After you have covered 75% of the board, the game will move on to a harder and quicker board.

What makes the game difficult is that you have three very persistent enemies. Included are the QIX, who is a neverending menace. While you are attempting to draw, this whirling villain is attempting to do you in for good. If it touches your Stix (line) before you finish a box, then your box is eliminated, and you have to begin again. You only have three markers, so be careful!

Another nasty is the SPARX who will pursue you constantly, and who will wipe out your box if it crosses your path. There can be up to eight Sparx at one time, so be quick!

The third of this gruesome trio is the Fuse, who the minute you stop drawing and have yet to complete a box, will ignite and run up your line with destruction in mind. Your only escape is to move again quickly.

QIX is a very challenging game because the farther you get, the faster and harder the Qix travels. The amount of area you cover by your boxes and the speed with which you do it determine your score. Unlike most arcade games, the slower you can draw your boxes the better. The slowly drawn ones (colored red) are worth twice as much as those completed quickly (colored blue). By pressing your fire button, you will draw at fast speed; just moving your joystick will put you into the slow drawing mode.

Bonus points can be earned if your final box gives you more than 75% of the screen, and by separating the Qix if you are playing against more than one of them.

QIX is a very exciting game with non-stop action. It is a good game for developing your hand-eye coordination. You can play alone or with a friend (pressing the Select key will allow for a two-player game). I recomend QIX for a person who likes a challenge and who won't get frustrated easily!

E.T. PHONE HOME

Not Necessarily for Kids

From the movie E.T. comes this extraordinary extraterrestrial to your Atari home computer. E.T. will dazzle and delight players of all ages.

After inserting this Atari game cartridge into the cartridge slot on your computer or XE Game System and turning on the power, on your screen will appear E.T. himself looking very much like his movie image. Below him will appear the instructions on how to start the game.

Pressing the Start key will begin the game. Before you do so, however, you should press the Option key in order to choose the difficulty level. There are nine levels, with 1 being the easiest and 9 being the hardest.

Other features include a pause game feature activitated and deactivitated by pressing the Space Bar.

The object of the game is a simple one. You control Elliot, E.T.'s best friend on earth, as Elliott attempts to find all of the pieces of a phone for E.T. to build. After the phone is completed, you must safely bring E.T. to the launching pad where his party of aliens awaits him.

"Well, it sounds simple!" you say, but I forgot to mention that there will be mad scientists and evil agents following you to try to stop you from finding the pieces of the phone. Also, you only have a certain amount of time to find all of the pieces to the phone, or E.T.'s life-energy will run out. So you have to be quick.

You begin your quest at Elliot's house in a map of the neighborhood where he lives. By pressing the button, through telepathic powers, you can see E.T. When you see him, you also will view the pieces of the phone you need to find (just in case you forget).

By moving your joystick and pressing the button, Elliot will run, and by just moving the joystick, Elliot will walk. As Elliot moves through the neighborhood, he will look for the pieces of the phone. The only problem is that the pieces are invisible until Elliot gets close to one of them. Once Elliot does gets close, E.T. will make a special sound, and the piece will become visible to Elliott. After Elliot gets the phone piece, he must then bring that piece to the green square near his house. After Elliot puts the piece in the square, by pushing the fire button on the joystick, he can see what pieces he still needs to get, and repeat the previous process until all the pieces of the phone are found.

Elliot will have a tough time though because agents and scientists will be following him. If Elliott finds a piece to the phone, and an agent or scientist is nearby, the villain might try to capture the piece. Because of this, Elliot might have to drop the piece and run.

Once all the pieces are found, you will hear E.T. say, "PHONE HOME", and you will know you have all the pieces. Then the final test -- as E.T. leaves he must race through the neighborhood to the woods. There he must find the green patch where his ship awaits. After boarding the ship, E.T. finally will be taken home!

At the beginning of the game, E.T.'s life-energy is shown at the top of the screen. Also shown are four flowers. You can gain flowers by getting phone pieces. Every time a line of energy runs out, you lose a flower. If all the flowers disappear, your game is over. When E.T. runs out of energy, or he finds his ship, your score is shown numerically. The high score is also shown.

E.T. is a very cute game for all ages. The more you play the game, the better you get, and you can move up levels for harder challenges. I feel though this might be complicated for younger children. With all the tasks that have to be performed, youngsters from ages five to seven might need parental help to start them out. But once they learn the basic play, this game will be hours of fun.

So it's up to you! Can you help E.T. "PHONE HOME"?!?

THE PD WORKS

By Alan Friedman

Games #1, #9, and #10

Text Adventures I, II and III are all adventure games that consist of entering directions and commands from the keyboard. You usually find yourself in a building, cave, submarine or other structure that resembles a maze. You can move in any direction where there is an exit from the room you are in. Commands for movement are usually N,S,E,W,U(Up) and D(Down).

When you enter a room, there may be an object present. You can give the computer a command such as "Get Hammer". If this is the proper command, you will get an "ok" back from the computer; if not, the computer will tell you the object is too large or the command was wrong, or it may do nothing. This could mean that you need to possess another object first. In some games you need to trade objects with other people in the game.

The main tip for all these games is to go into as many rooms as possible before picking up objects or trading possessions. You may want to draw a map of the maze and the objects in the room. Remember if there is a closet or other piece of furniture in the room try to open it. There may be goodies inside.

The game I have spent the most time on has been "Madhouse" on Game Disk #10. This one places you inside an Insane Asylum for the criminally insane. You have been put there even though you are innocent and your mission is to escape. Most interior doors are unlocked and you can freely move from room to room. In this one you need to collect items to trade with other inmates to get either clues or more tradable goods.

Lots of patience and a little common sense are needed for these games. They can provide hours of fun or frustration.

Utility #25: 3-D CAD

It took us a while to find a CAD system that would allow you to draw with the joystick and view what you have drawn from any anlge and size. We have found in in Utility #25. One page of documentation is on the disk and it shouldn't take long to start using this program. There are several good 3-D drawings already on the disk. Load one of them and view it from several angles. You will need to enter the X, Y and Z Axis (remember this is 3-D). You can also determine the size of the object you are viewing. This is useful because the program will not complete a drawing that is too large for the screen. It will start plotting the drawing and once a line goes off the screen it returns you to the main menu. When this happens, reenter the coordinates and reduce the size of the drawing. I have found that on most of the sample drawings you can view them from any angle with a size ratio of 0.6. You can flip an object, mirror it, offset where it appears on the screen, and more. All of this information is found in the programs documentation.

Language #14: C Compilers

Are you tired of programming in BASIC? Want to explore a more advanced language but don't want to shell out all the bucks a commercial product will cost? Language Disk #14 contains the ACE C compiler, linker and engine along with a full set of documents. This is not a tutorial on C but a very good operations manual for the compiler and associated programs.

ACE C is supposed to be much faster than Deep Blue C. Both the compile time is less and the run times on the compiled programs are supposed to be twice as fast as Deep Blue C programs. So what could possible be better? The CC8 compiler. This compiler runs even faster than the ACE C compiler and it is on the reverse side of the disk. You can use the ACE C linker and engine with the programs compiled on CC8. A text editor that will work with both compilers is also located on the back of the disk.

If you need a good book for learning C let me suggest C Programmer's Guide from Que Corporation. This book can be found in most computer stores and in the computer section of many bookstores.

Telecom #7: Data Comm.

On this disk is every kind of disk compressing utility we could find. These utilities are extremely important to anyone who does a lot of downloading from BBSs. There is Diskcom, ARCheiver, Shrink, Skrunch, Masher, and more. There is even a program, DETECT, that will identify what compression program was used on the file you just downloaded. No longer will you have to guess what program was used only to find out that you don't have a copy of that one. Now you can identify those files and extract a working copy in no time at all. There are even some protocols on the disk that I have never heard of (no wonder I couldn't get those downloaded files to work).

Utility #31: Hacker's Toolbox

Hacker's Toolbox contains several sector editors (one for enhanced density), two disassemblers, a simple assembler, a copy of SuperDup, one of the best sector copiers, and The Maid, a program used to clean up your disks. One part of The Maid flags files to be deleted and then deletes all the flagged files; the second part lets you flag files from a disk to be copied and then copies only those files.

Side B of the disk contains "Code Buster" and its docs. Code Buster is an advanced hackers program that allows you to load a sequence of sectors. You can then disassemble the sectors, change them and write them back to disk. This is an advanced program and you should be familiar with some machine language programming and how a disk works. As usual, before you attempt to change a sector or work on a disk, you should copy the disk and work on the copy.

130XE RAMDISKS

By Alan Friedman

Now that everyone is familiar with the 320k upgrade for the Atari 130XE and the 256k upgrade for the 800XL, the big question is "Now what do I do with it?"

I have discussed in earlier articles that this extra ram can be configured as a ramdisk with programs like SMARTR.230 and RAMDSK. Since ramdisks don't require time for the drive motor to come up to speed and can be written to at great speeds, they are very fast and can be used to advantage with telecom programs to speed up the process of downloading files from a BBS.

Now we can include MODDOS25.BAS in the ramdisk programs. It is a new program that modifies DOS.SYS and RAMDISK.COM creating two 707-sector ramdisks. One is D8 and the other is user designated. Written by Thomas Lawless out in Washington, this is quickly becoming my favorite ramdisk program. Having D8 as a 707-sector ramdisk is great because D8 is the default drive for many programs.

Are there any other good uses for these fast ramdisks? You bet there are! Remember those old Atari and CPM programs that, in an attempt to save memory, read and wrote all records directly to the disk. As the data in the file got larger the program became slower and slower. Searches and sorts began to take forever. Now those problems have dissappeared with these single density ramdisks. You can write programs that create files, do their manipulations and searches on ramdisk, and once the program is finished it can rewrite the file back to a floppy disk.

I wrote a couple of programs to test creating these files and transferring information. They ran so fast I was sure the file was not created on the ramdisk. When I went to DOS and looked at D8, I was really suprised. Everything was there and it was faster than I had ever believed.

Combine this speed with the additional speed of Turbo-BASIC and we are now talking about a whole new life for an old machine. Just think of the possibilities, programs with hugh file storage capacity, speeds that approach machine language and virtually no wait time when reading and writing to disk. Sounds almost too good to be true, but it is.

USING AN UPGRADED 320XE

by Roy Brooks

This is being written on an upgraded 130XE thanks to Al Friedman who came over one Saturday and in less than two hours had my XE up and running with 320K. From the bitter experience of ruining a printer cable, I know I would have made a real mess if I had tried to upgrade by myself.

I have grown used to having the 1,500+ sector ramdisk for telecom use. Now, I have a 2,024 sector ram disk when using *EXPRESS 3.0* and *SPARTA DOS 3.2*. This really speeds up file transfer and gives me plenty of room to store prewritten messages for fast message sending.

What really intrigues me is the extra ramdisks. Tom Lawless sent me a Ramdisk.com that forms D7: and D8: as 707-sector drives. I have loaded *Word Magic* from Antic and I am using D1: as the program drive, D2: for my personal dictionary drive, D7: has the whole dictionary disk (33,000+ words) and D8: is the temporary file storage drive for fast spell checking, printing and on-line help files.

I teach school in Fairfax County and the county is going to Apple computers. I took two Appleworks minicourses this Fall and Winter to see how the integrated program works on 64K and 128K Apple II's. It works good! I want an integrated program for my Atari computers. *Word Magic* for the XE comes close. It has word processing, graphic integration, and spell checking. You can also mail merge with *Data Manager* from Antic. I don't have DM but maybe that database can be integrated more ways than just mail merge? The Graphic Magic does have provision for B Graph files.

I'm not selling *Word Magic* because this is the first time I've used it and so far it seems to work just fine but gremlins have a way of popping up in unfamiliar programs. I've been on the look-out for a way to integrate the spreadsheet, word processor and data base programs available for Atari 8-bit machines. I'm corresponding with user groups, and individual around this county and overseas exchanging information about our library and utilization of Atari 8-bit computers but so far I have seen little with the potential of Appleworks. I also want a quicker way to spell check than *Atariwriter+* with it's disk swapping rituals. The ramdisk files that have made a degree of integration possible can be found on Utility disk #21 130XE Upgrades+.

NOVATARI XL/XE LIBRARY

Announcing two new disks since we last advertised here! (look for *) The price for mail orders is $3 per disk plus $1 for postage and handling for every 3 disks. Send checks, payable to NOVATARI, to Alan Friedman, 5951 Heritage Square Drive, Burke, VA 22015.

Any user group librarians who are willing to trade library disks write or call Roy Brooks, 4020 Travis Parkway, Annadale, VA. 22003, phone 703 750 0146. We trade with groups all over the world.

DEMO

1: Miscellaneous
2: Movie Maker Clips
3: Heavy Metal Art
4: Miscellaneous
5: Desktop DOS + Demos
6: VizPics
7: Mandelbrot factal graphics
8: Hitchhiker's Guide to the Galaxy
9: WIZARD of OZ

EDUCATION

1: Mathematics
2: Primary Language
3: Teachers' Toolbox
4: Word Builder 1.0
5: Animated stories
6: Geography
7: Bio+Chem w/touch typing
8: Basic Math
9: Higher Math and Language
10: The Cell
11: Spelling Bee
12:* Math Game

GAMES

1: Text Adventures I
2: Gambling
3: Simulations
4: Mazes
5: Parlour Games
6: Graphics
7: Action! Games
8: Arcade Look-A-Likes
9: Text Adventures II
10: Text Adventures III
11: Surf's Up
12: Ski King
13: 20 BASIC Games
14: Super Quiz A & B
15: Two Graphic Adventure Games
16: Space Lords
17: Pinball Games
18: Machine Lang Games
19: Dandy Dungeon

LANGUAGE

1: Fig-FORTH
2: ACTION! source codes (cf. GAMES 7)
3: Action! Graphic Demo
4: Action! Utility Prog
5: Action! Modules #1
6: Action! Modules #2
7: BASIC XL-REF Base
8: Action! Modules #3
9: KERMIT telecom
10: Turbo BASIC
11: Pascal Sampler
12: Searcher XL Turbo
13: Turbo Basic-400/800
14: C Language

MUSIC

1: TV/MOVIE Themes
2: ROCK
3: JAZZ
4: BASIC with animation
5: Ams: 12 Rock Songs
6: Ams: 14 Movie/Video
7: Ams: 16 Oldies
8: Ams: 18 Classics
9: Ram130 AMS Beetles'
10: Music Comp. Songs

UTILIITY

1: MISC. introduction
2: Printers
3: DOS 2.5
4: Directory & Label Printer
5: Graphics Trilogy
6: Copymate XE
7: SCOPY sector copier
8: Translator Disk
9: 256K Upgrade
10: Daisy-Dot NLQ
11: Dos 2.6
12: MACHDOS 2.1
13: Print Shop Editor
14: Easy Find
15: Print Shop Icons
16: TEXTPRO 1.1
17: Print Shop Icons
18: Touch Edit
19: DOS 4.0
20: Graphics
21: 130XE upgrades + Utilities
22: HI-RES 130(graphics)
23: Rainbow DOS
24: Font Master
25: 3-D CAD
26: Adelaide Symbolic Disassembler
27: DB's & Spreadsheet
28: Graphic Util & Pics
29: String Magic
30: Print Shop Icons
31: Hacker's Toolkit
32: Weekly Scheduler
33:* Textpro 2.5r(telecom)

TELECOMMUNICATIONS

1: 850 Interface
2: 835/1030 Modem
3: MPP Modem
4A: AMODEM 7.2
5A&B Chameleon Terminal Emulator
6: 1030 & 850 Express (3.0 & 2.1)
7: Data Comm
8: Amis XM10 BBS prog
9: Amodem 7.4+Rverter

FAST-DRIVE

The Faster & Quieter alternative for the Atari ST's!

* 800k Double Sided Disk Storage (max. 840k on one disk)
* Auto flip-up cover in disk opening for dust protection
* Full 82 track/10 sectored formatting
* Direct drive motor for accurate speed and tracking
* Full Atari SF-314 Compatiable
* Super quiet operation
* Compact spacing saving design (4"x 3" x 6" w/2 drives)
* Two full year warranty! Don't settle for less!

List

$ 199.00 800k storage Sngle Drive

$ 299.00 1.6meg storage Dual Drive

Dealer inquires welcome Call (301) 937-3606

DOUBLE SIDED DRIVE MECH. FOR THE SF-354 DISK DRIVE.

$120

A do it yourself upgrade for the Single side drive & 520STfm $10 back for used mech

COMING SOON

OBLITERATOR
SHERLOCK
BATTLEDROIDZ
ROCKFORD
WORD UP
FONTZ
ART GALLERY
FANTASY
GLOBAL
COMMANDER

Magic Sac conversion available for Mac software. Call for info on Mac software and compatibility.

Ram Upgrades, service, repairs- available. We carry a full line of Atari products, software and accessories.

MagicSac+ /ROM

Macintosh Emulator for the Atari ST. Includes battery backup clock for both the ST & Mac side.

$ 169.95

Call for more Info!

EPSTART

Printer utility for any program to print on an Epson printer. Also available for the Toshiba. Will permit any program to print on the Atari STs.

MagicSac - $39.95

WET PAINT

A gold mine of images you can use to decorate letters, reports,advertising, and business forms. You can make labels, enlarge images to make signs or bumper stickers. You can reduce or modify them anyway you want.

MagicSac vol.1- $39.95
Magicsac vol.2- $39.95

MAGNAVOX ST COLOR MONITOR

* 14" DIAGONAL COLOR MONITOR
* RGB ANALOG FOR THE 520ST/1040ST/MEGA ST
* COMPOSITE FOR THE 800/XL/XE AND COMMODORE
* RGB TTL FOR THE IBM AND CLONES
* CONNECTS TO THE VCR
* GREEN SCREEN OVERRIDE FOR WORD

$299.95

ST RGB CABLE $19.95

STEPPING OUT

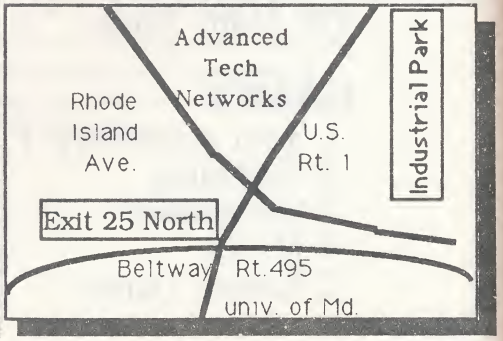
Full page display on any size monitor. Expand the screen far beyond its size. You define the resolution. Max size - 2048 x 1368 lines.

MagicSac - $74.95

WORLD-CLASS FONTS VOL 1& 2

Best collection of fonts available. Three 800K disk full of fonts for use with any programs, including the new Word Up for the ST. Includes Font/Desk Acc Mover.

MagicSac - $59.95



ADVANCED TECHNOLOGY NETWORKS, Inc.
Twin Chimney Office Park
10724 Baltimore Ave.(Rt.1)
Beltsville, Md. 20705 (301) 937-3605

Mon-Fri 11-7:00 Sat 10-6:00

MICROSOFT WRITE

Not Ready for Prime Time

Review by Milt Creighton

How long ago did you hear that Atari had signed an agreement with Microsoft Corp. to release their popular word processor for Atari ST computers? More than a year, right? Although there was confusion about what the product was to be called, it seemed destined to cure everyone's wordprocessor blues and was sure to rank right up there with the legendary (and at that time, nearly ready for release) *Paperclip Elite*.

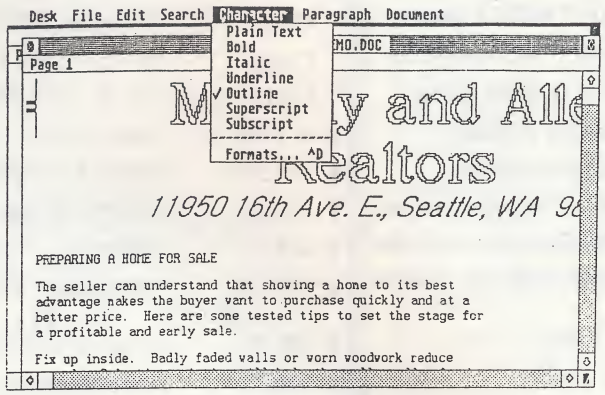
Well, a lot has happened since then and not all of it good for either Atari or *Microsoft Write*. First, it took so long to get the product out on the street, that it appears in real danger of being overtaken by other more powerful (and more complete) programs. Second, the lack of printer support seriously hampers the usefulness of this program in precisely those areas where it has its greatest appeal. Coupled with its high price and difficulty of GDOS installation, these problems just might be enough to prevent *Microsoft Write* from capturing a significant share of the market.

If this is to happen, it will be a shame because *Microsoft Write* is a powerful program with many elegant and useful features. It is easier to learn than *WordPerfect* and has a number of advantages in font and type size. So let's take a look at its inherent strengths and weaknesses and then come back to some of the more practical difficulties of using it. Hopefully, this will give you an overall view of whether *Microsoft Write* is right for you.

A Step-Child

First of all, *Microsoft Write* is not a true second-generation word processor, though it is GEM-based and you can edit up to four documents at a time. It does display multiple on-screen fonts which can be printed out in graphics mode (if you have the right printer) but it cannot at present incorporate graphics and text in the same document. There is a way to do this which I will address later, but it is a feature of another program and not within the power of *Microsoft Write* itself. At present *Microsoft Write* is at best a step-child of the second-generation programs to come. And one such program called *WordUp* is even now about to hit the market.

Second, *Microsoft Write* does not have its own spelling checker, thesaurus, or outline processor. If you would like to have use of these features, *Thunder!* (the spelling checker



by Batteries Included) will work but since *Microsoft Write* seems to collect garbage at the end of a file, you will have to put up with wading through the refuse if you use *Thunder!* off-line. If you want an on-line thesaurus, you can get one from Timeworks which is included in *Partner ST* but it may not work properly since I have found several of my desk accessories interfere with the proper operation of *Microsoft Write*.

Macro's and Headers

Microsoft Write does have a macro capability, but it is not as powerful as that found in other programs and is more difficult to use. It is called a "glossary". Words or phrases are stored on the clipboard using the "Cut" or "Copy" commands and then pasted in the glossary. This is not necessarily difficult, but it is sufficiently unlike the operation of other word processors that a new user will have less difficulty learning the process than will an experienced user of other programs. Accessing the stored macro requires typing the trigger phrase and then pressing the [Control] [Backspace] key combination.

Microsoft Write also has a multi-line header and footer feature which is termed "a running head" in this program. The information in the running head can be different for odd and even pages and you can embed page numbers, but you have to choose whether to have a header or a footer. You can't have both.

Mouse Editing

Microsoft Write is advertised as being optimized for mouse operations (it also has

equivalent keyboard commands) and after using it, I have come to conclusion that the mouse-screen interface is better implemented in this word processor than any I have ever seen. The cursor can be placed exactly, no matter what the size of the on-screen font and block operations become a positive joy.

To select a character, drag the cursor across it. To select a word place the cursor on it and double-click the mouse. Selecting a line only requires placing the cursor in the left margin and clicking the left mouse button once, while an entire sentence can be selected by placing the cursor anywhere in it and pressing the [Control] key while clicking the mouse button once. Likewise, there are easy commands to select a paragraph, marking the beginning and end of a block, or selecting an entire document. A very, very positive feature.

Deleting text works in conjunction with the block operations. After selecting the text you want to delete, just select "Cut" from the menu or its equivalent keyboard command (which places the deleted text onto the clipboard). Alternately, you can select the text and then press the [Backspace] key, but this selection does not place the deleted text onto the clipboard. If you wish to replace the selected text with a new entry, just select the text you wish to replace and then begin typing the new text. The old text will be deleted.

Microsoft Write does not make use of the [Delete] key other than in cursor movement. You cannot delete text with the [Delete] key. It doesn't make sense to me that this key has been disabled. The upshot is that you have to use one of the methods described above or use the [Backspace] key to delete text from right to left, an inherent disadvantage of the MS-DOS machines which has been neatly ported over to the Atari. Not a smart move in my opinion.

Moving text is handled quite efficiently, however. Just select the text you wish to move, move the cursor to the spot where you want to insert it and hold down the [Shift] and [Alternate] keys while you click the left mouse button. The program will move the text without requiring any other commands. Copying text is just as easy. The method is identical, but press only the [Alternate] key when you click and the selected text will be copied to the cursor. Sure beats all accessing all those menus required in other programs.

The Search and Replace functions are fairly standard. There are both one-time and global operations and you can ignore capitals or make them a condition of the search. You can link a Replace with another Search and you can even move the Search and Replace dialog box out of the way if it obscures text you wish to see. You can interrupt an operation to edit text and then return to the operation without a great deal of fuss. You can also tell the program to search only for occurrences of a whole word. This prevents the search condition from being satisfied with "working" when your search phrase was "work". There is also a wild card capability with a question mark standing for any single character.

Advanced Features

Auto-formatting is a nice feature. The text is automatically formatted on the screen as you enter it without the need to force a manual reformat as many other wordprocessors require. No danger here of printing out the finished copy only to find a sentence hanging out beyond the right margin.

I also like the on-line help with its multiple access option. You can access it from the menu bar, or by pressing the [Help] key, or by pressing [Control] [?] which changes the cursor to a question mark which you can use to click on a menu item to call forth the help file associated with that operation.

Microsoft Write's footnoting feature appears to be on a par with that found in other up-scale word processors. There are both automatic and manual modes of operation and the footnotes can be printed on the same page where they occur or they can be printed at the end of the division.

There is also a powerful mail-merge capability for preparation of form letters. What makes this feature unique is the inclusion of a conditional instruction set where a certain phrase can be inserted in a letter if a preset condition is satisfied and a different phrase inserted if it does not.

Microsoft Write produces clean ASCII text files -- a feature not found in *WordPerfect* where the text files are encumbered with carriage returns at the end of every line. *Microsoft Write* also appears to have no difficulty importing clean ASCII text files created by other word processors.

It is possible to change the page formats as many times as you wish within a single document -- as long as you remember that each new "division" starts a new page. Pages can be numbered differently within each division. For instance, it is possible to use arabic numbers within one division and roman numerals in the next division. In addition, page number positioning is very flexible. In fact, you can put a page number anywhere you wish on a page.

One of the really unique capabilities of *Microsoft Write* is its ability to access the international character set from within the program. Do you need that accent mark over the "a"? Well, just hold down [Control] [Alternate] or [Control] [Shift] [Alternate] and press the appropriate key and you've got it. Not all of the characters will print, but most of them will. Of course, you have to be in graphics print mode to print out the product and don't try to use a spelling checker on the file.

Microsoft Write supports up to six multiple columns, but there are problems here. First, the program does not display the columns as they will be printed. Instead, only a single column is displayed on-screen, meaning you lose your "WYSIWYG" display. Second, there are problems with trying to get the column spacing closer than half an inch when using proportionally spaced text. Third, the program does not permit micro spacing with justified text which means there are sometimes wide spaces between words in a line and this can be exacerbated in multiple column format. And it is very difficult to have multiple formats on the same page (such as a single column title and double column text). I won't say it is impossible, I just ran out of patience trying to figure out how to do it.

Well-Designed

There are some features I really liked such as the ability to set margins in a number of different measurements of length including centimeters and inches -- a very useful feature in a program which offers multiple-sized fonts. Also, you can automatically insert a white space between paragraphs and you can begin a new line without starting a new paragraph. You can indent and outdent and you can choose whether or not to create a backup file on each save operation. All or most of these features are built into the very structure of the program and are responsible in large measure for the success Microsoft enjoys today. It is a mature program and I have few complaints about its basic successful design. I suspect most of the shortcomings which I shall address can be laid at the feet of those who have attempted to implement this program on Atari computers.

Shortcomings

I am disappointed in the lack of use of the function keys for keyboard commands. There was no attempt to use the [Shift], [Control], or [Alternate] keys in combination with the function keys. Instead, the [Control] and [Alternate] keys were employed in combination with letter keys to provide keyboard equivalents to the menu commands. Personally, I would have preferred the former because it is easier during the learning process to have a template taped above the function keys than it is to refer to a reference sheet. I do not, however, consider this a major deficiency.

I also found that several of my desk accessories interfered with *Microsoft Write*. This is not all that surprising and not necessarily the fault of *Microsoft Write*, but some of the problems turned out to be very subtle. One problem between *Microsoft Write* and DeskCart! resulted in the printer output being very slow in graphics mode, for example. My advice is to turn off all of your accessories in the beginning and then add them one at a time so you can judge their impact.

Driver Problems

So far, I have spoken of relatively minor problems. Let us now address the big ones since they all seem to surround the relationship of *Microsoft Write* with GDOS. The one real advantage of *Microsoft Write* over *WordPerfect* or *WordWriter ST* is its ability to display and print out multiple fonts of varying sizes in graphics mode. To make use of this feature, you must have a compatible GDOS graphics printer driver. Otherwise, at best you will only be able to output your printer's native fonts. If you are stuck with only this option, *Microsoft Write* loses all appeal. Yet Atari has only seen fit to provide a GDOS printer driver for their own SMM804 dot-matrix printer. In effect, they are saying that if you did not buy an Atari printer, you will be penalized with inferior output! Yes, there are other printer drivers on the disk, but they are not GDOS graphics drivers and will only evoke the fonts resident in your printer.

This kind of arrogance is unconscionable, in my opinion. Business may be war, as Jack Tramiel has been fond of saying, but I do not wish to be regarded as the enemy by Atari when I am buying an Atari-distributed product. There is nothing in the literature to suggest Atari Corporation intends to provide technical support on this product beyond providing an address for their customer relations department. There is also nothing to suggest they intend to provide additional GDOS graphic printer drivers to support other brands of printers either. Undoubtedly, third-party developers and enthusiastic amateurs will fill the gap in time, but until then you could be hung out to dry if you have an incompatible printer.

To be fair, Atari has included an Install program on the disk just in case you are able to come up with a compatible graphics printer driver on your own. I am confident the Install program was written by a qualified person and if properly employed, will allow one to correctly modify the disk for proper operation with any printer. However, I must report that I was unable to make

it perform properly in more than a week of trying. Several of the writers, editors, and columnists at *CURRENT NOTES* tried and, to the best of my knowledge, only one of us was able to use this program to properly install the GDOS driver, and have it actually print in the Graphics mode.

Do It Yourself

So what do you do? You install it yourself, that's what. But before you do, make a back-up. I'll try to give you a couple of tips on what to do and what not to do. Say you have a GDOS driver for your trusty 9-pin dot matrix printer and you want to install *Microsoft Write* to run on your floppy drive (we'll get to hard disks and 24-pin printers in a moment). You load your favorite word processor (one that is capable of producing ASCII text files) and import the file ASSIGN.SYS into it. Look for device 21 and replace that printer driver name (probably SMM804.SYS) with the name of your own GDOS printer driver. Then save the file back to disk in ASCII (text) format.

Next, copy your printer driver file (using the same name you inserted in the ASSIGN.SYS file) to the "GDOS.SYS" folder on your *Microsoft Write* back-up disk. Then load *Microsoft Write*, select "Printer Set-up" and then the "Graphics" printer. You should now be able to print out the three fonts included on the disk, including many of the international characters.

What if you have a 24-pin printer and you want to install *Microsoft Write* on your hard disk? Now it gets a little tricky. Make a back-up. Maybe you should even back-up your back-up. (By the way, the Atari laser printer driver can be installed in the same manner as the dot-matrix drivers described herein).

GDOS Drivers

Where will you get a 24-pin GDOS printer driver? If your printer is an Epson LQ-800 compatible, you are in luck. Migraph (of *Easy Draw* fame) sells a very good GDOS driver that will serve nicely. Remember you also need the 24-pin printer fonts to go with the screen fonts on the *Microsoft Write* disk. Fortunately, they are also included on the Migraph disk.

Now when you import the ASSIGN.SYS file into your word processor, you must not only change the device name (to LQ-800.SYS, for example) but you must replace the names of the printer fonts at the end of the ASSIGN.SYS file with the new 24-pin printer font names on the Migraph disk if they are different than the ones on the *Microsoft Write* disk.

Since the program will be run from the hard disk, change the path line at the beginning of the ASSIGN.SYS file from "PATH=A:\GDOS.SYS" (which is correct for running *Microsoft Write* from floppy drive A) to "PATH=C:\GDOS.SYS". Save ASSIGN.SYS as an ASCII (text) file.

Now, you must copy both the printer driver and the printer fonts to the GDOS.SYS folder and then copy the entire folder to the root directory of the "C" partition of your hard disk. Also copy the GDOS.PRG file in your AUTO folder of the floppy disk to the AUTO folder of the "C" partition of your hard disk if you autoboot your hard disk or place it in the AUTO folder of your boot disk if you boot from a floppy. Next, copy the modified ASSIGN.SYS file to the root directory of the "C" partition of your hard disk.

If you already have Easy Draw on your hard disk, you will find there is already an ASSIGN.SYS file in your root directory since it is also a GDOS program. You will have to rename it while you are using *Microsoft Write*, possibly to ASSIGN.SYX. Remember to keep the right ASSIGN.SYS active. Some clever person will probably come up with a program to allow doing this at boot-up the way ST SELECT allows one to select which auto programs and desk accessories to run from each cold start or reset.

Almost There

Finally, create a folder in partition "C" called MS_WRITE and copy the remainder of the files to it. You do not need the other folders on the *Microsoft Write* disk, just copy the files in the root directory of your *Microsoft Write* disk to the folder you have created. Now reboot the system and load *Microsoft Write*. Select "Printer Set-up" and then select the "Graphics" printer option. You are ready to take advantage of the best features of *Microsoft Write*. [*Ed. Comment: After more than a week of trying, we spent several hours at our local Applied Computer Associates being "hand carried" thru the install program for the Atari laser printer; following the documentation instructions will leave you deep in "Wonderland". -FS*]

I promised to tell you how to incorporate graphics into *Microsoft Write*. There is a way if you have *Easy Draw*. When you have completed your document in *Microsoft Write*, go back and clear a space where you would like to place the graphic. Then select "Printer Set-Up" and the "Metafile" option. Now when you print, the file will be printed to disk in GEM format -- ready for importing into *Easy Draw*.

(Continued on Page 47)

TANGLEWOOD UNTANGLED?

(Not Quite Yet)

Review by Don Elmore

Tanglewood is one of MicroDeal's latest graphics oriented adventure games that is unique in that no typing in of commands is required, all player input is done with the mouse. It has truly impressive graphics, a concise instruction booklet and lists for $39.95 in the MicroDeal catalogue (though you can probably pick it up a little cheaper through your local dealer). If you are expecting a technical evaluation of the relative pros & cons of this intriguing adventure game, you are probably in for a disappointment. After investing more than 30 hours in *Tanglewood*, I have come to the conclusion that either it is an extremely unplayable adventure game ... or ... I am indeed the "Eddie Edwards" of the adventure gaming circuit (probably more the latter than the former!).

Just what is *Tanglewood*? Well, it is T'ngly-wd, an obscure planet in a remote galaxy, mostly minding its own business, as most obscure planets do. Uncle Arthur (known far and wide for his unusual and virtually unsuccessful business ventures) bought the mining rights to Tanglewood from a large mining company that was trying to improve its cash flow by dumping a lot of useless properties that it had acquired. Just as Uncle Arthur was beginning to realize that he might possibly have purchased a turkey, he saved a local inhabitant (T'nglian) from a horrendously horrible death ... and in gratitude, the T'nglian showed him some special properties of those previously thought to be valueless stones that not only promised great financial value, but also hinted at a definite potential for military applications. Those stones are now known as Dog Crystals, and there is even mention of the stone among stones, known as the Ice Emerald.

Ten Days 'Til ...

Unfortunately, before Uncle Arthur could actually locate any of the Dog Crystals, word leaked out (Uncle Arthur liked beer) and the original company re-established their operational base on Tanglewood and stole the documents giving Uncle Arthur exclusive mining rights on Tanglewood. What's more, they have filed before the Inter-Galactic Court to have Uncle Arthur evicted from the planet and the case comes to trial in ten days. That means that Uncle Arthur has only ten days to find those documents ... he turns to you(me) for help, and away we go! Oh, I should mention that Uncle Arthur is famous for his frugality, which is only barely surpassed by his loathing for parting with money. His equipment is a second-hand collection of antique 20th Century computer junk that probably never worked to specs when originally taken out of the respective cartons. Simply put, your(my) challenge is to locate the documents and as many crystals as possible before the time runs out. Sound straightforward? Hah!!

Incomprehensible?

Filled with naive anticipation and genuine enthusiasm, I eagerly booted the program and proceeded to conquer Tanglewood. In retrospect, perhaps I should have paid more attention to the "Conclusion" comments in the instruction booklet. I quote: "Tanglewood is a game designed to challenge and develop your problem solving abilities rather than your reflexes. It may seem foreign and incomprehensible at first, but that is how it should be!" Boy, did they get that right!! After a considerable amount of time and energy devoted to attempting to help Uncle Arthur, I still find it both foreign and incomprehensible. However, in all fairness, remember that that could well be the "Eddie Edwards" in me rather than the overall difficulty of the game. I even turned the controls over to my teenage son and his good friend, and they were not a whole heck of a lot more successful than I have been!

Rest assured that: A) nothing works exactly like it should. Ever. B) even if it does work (after a fashion) once, it does not necessarily have to repeat its performance in subsequent similar circumstances, C) no matter where you are, what you need at that moment is somewhere else, and D) by the time you do get everything together ... whatever you were going to do in the first place has been overtaken by some other event. We have at our command, four "Mobiles" resembling cute little old-fashioned box cameras suspended between two pile driver-like legs, and one amphibian "Mobile" that looks suspiciously like a little rodent, complete with a paddle wheel on each side (instead of legs). Old #5 (the rodent) has to stay in water during the days, and can only traverse roads after dark when the surface temperature has dropped sufficiently. All of the mobiles are supposedly equipped with on-board programs that allow them to climb, jump and carry out all sorts of activities ... except some of the programs are inoperative in each of the mobiles. #5, the

most modern of the lot, does have a special repair program that enables us to repair the other four after they have been zapped by the Opposition Disrupters, and it (itself) is impervious to the Disrupters.

T'nglians Won't Talk

According to the instructions, we will need the assistance of the T'nglians and they are a strange crowd, extremely sensitive to protocol in dealings and they demand the strictest adherence to precise and correct rituals in their communications with outsiders. However, they refuse to describe or explain their rituals, so there is no communication. At all. I came across one of their cute little toadstool shaped houses and was advised by my on-board computer that a T'nglian was sitting in his easy chair reading the newspaper, but he refused to communicate with me! One of the mobiles had a communication data disk, but it was left in one of our four bases on the planet (no one knows which base ... or even where the #^*@% bases are!). Following the precepts of good graphics gaming, I've developed the habit of examining virtually everything that comes within range of my mobiles (except the Disrupters). In fact, I've acquired one of the habits of a bag lady, not a roadside trash can is passed without my stopping and minutely examining its contents. (Maybe that has something to do with why the T'nglians won't talk to me). Almost every time, the computer read out advises that there is nothing in the can but a lot of useless rubbish ... but once, I did find a rechargeable flashlight battery! And once, I accidently stumbled (literally) across an expired VISA card.

Earthlike Images

It didn't take long to realize that regardless of where I was, what I was doing or even which mobile I was using at that moment ... whatever I needed was either in another mobile or simply somewhere else. Talk about frustration! Another interesting caveat that Tanglewood invokes is the on-board mobile computer readout. What you see on the screen is not always what it really out there, and even if it were, it is probably history. By that I mean that exact images of the alien landscape cannot be reproduced in a comprehensible form, so the mobile actually matches what it senses against its data bank and then projects the nearest equivalent to Earthlike images. There is a time lapse while the computer makes that conversion, so by the time images are transmitted to me, the mobile has moved on and is scanning something else. Add to that, the difficulty of steering the little critters (getting use to direction control takes a lot of practice) and we are in for some interesting jaunts. The main view is similar to looking down on the planet surface (like viewing a map) and moving the mouse along the different paths and roads. You call out a mobile by clicking on the numbered button with its number (forget about #4, the only message you get is that it is out of range). When you click on #1, the building where it is appears on center screen. If you query #1's location and/or condition, the readout advises that #1 is safe and hiding in the building. Cute.

3000 Locations

Actually, this is not intended to be a negative review. You should look on Tanglewood as a well planned challenge. I have run all over the planet, dived under its ocean, descended into several mines, entered dense woods, and minutely examined every trash can within reach ... all without finding documents, crystals or communicative T'nglians. Recently, I made the mistake of reading the back of the game box. (Remember, I have probably "charted" some 75 different locations.) Again ... I quote: "There are over 3,000 locations which you can visit, out of a total of nearly 12,000, and unlike those infuriating games when you discover after three weeks, that you should have done something different at the beginning, it's nearly always possible to finish Tanglewood unless you do something deliberately stupid, like stamping on the disks!" If you will excuse me, I have to go an find my boots.....

Microsoft Write

(Continued from Page 45)

You can load the file into *Easy Draw* but you will find there is a slight graphics incompatibility. A part of the file seems to be missing. The result is that the sentences appear to be chopped. Do not despair; the file will probably print properly even if you cannot see all of it. Now just place your graphics in the spot you cleared and print the finished product with *Easy Draw*.

The Bottom Line: Is *Microsoft Write* worth the expense and the trouble? Just maybe, if your printer is capable of using the GDOS printer driver supplied (or if you are willing to spend the additional money to buy one from another source) and if the promised *WordUp* wordprocessor doesn't perform as advertised. That's a lot of "ifs", folks. This program, in my opinion, has too few standard features (no spelling checker, thesaurus, or outline processor), is inadequately supported with graphics printer drivers, has a nearly unusable install program with too little information in the manual to allow you to install it manually, and is way too expensive for what you get. *Microsoft Write* is just not ready for prime time.

CYBER PAINT

Paint, Animation, F/X

Review by Bill Moes

Watch. A 3D animation is running, its color shades convincing the three-dimensional view. A darkened look ... a desolate planet. Then ... a flash of lightning etches across the background sky ... a lonely figure crosses the barren landscape. The animation continues, combining the depth from 3D-shaded objects and the motion from other, more common, image/cel forms. Then, as though literally torn from your monitor's screen, the entire animation, your whole view, is peeled away, to twist and turn, hurled into the vastness of the universe. You see your whole screen of a still-running animation as it rotates and flips. And grows smaller. To disappear.

Cyber Paint. The name is unassuming. The power is incredible.

The software includes painting, animation, and sophisticated special effects capabilities. You can use it as a stand-alone paint and animation program, or in conjunction with other programs, such as *Cyber Studio* or *Aegis Animator.*

Painting

While *Cyber Paint* does not have the complement of paint or drawing tools we've found in full-featured programs like *Degas Elite*, the capabilities available here seem reasonable. There are 10 items listed in the "Draw" menu:

Free..... hand drawing.
Streak..: similar to draw but will skip pixels if the mouse is moved quickly, also can be used with a screen block (clip).
Stipple.: can be used with a screen clip.
Airbrush: the size and speed can be adjusted, can be used with a clip.
Fill....: solid colors.
Line....: single, connected, or rays.
Polygon.: filled or hollow.
Circle..: filled or hollow.
Box.....: filled or hollow.
Text....: multiple sizes (normal, outline, underline, bold, italic, light - with combinations), uses GEM fonts (as does *Degas Elite*), although GDOS is not to be loaded, several fonts are included, use a font editor to create others (CN ST Library disk 127).

In addition to forming them separately, multiple boxes and circles can be concentric, one point can be the center for all of them, or they can be connected, the end point of one is the starting point for the next.

Zoom goes with a single-setting. While in the zoom mode, you can use the keypad to easily move the zoom box over different sections of your screen. All drawing tools work while you're in the zoom mode.

There are 16 brushes. Of these, 15 can be redefined, although there's no brush-save so you'll lose the one you replace. You can set the palette to cycle as you draw. This cycle works with the items in the drawing menu, including text.

You set the palette colors by moving RGB sliders. Or the RGB can be changed to HLS (hue, luminance, saturation) sliders for color choices, offering an easy way to make adjustments to colors. A section of the palette can be quickly marked and you can set a range of colors. It's also possible to shift and copy colors. You can click for the inverse of any marked set of colors (interesting). Or you can tint a range of colors, darkening it somewhat.

Once you've put something on the screen, you may decide it would look better in a slightly (or radically) different shape. With the clip menu will drop some possibilities.

A screen clip is quickly marked. You can press <TAB> to take all that is drawn on the screen into the clip buffer. Or you can press <ESC> and use a square frame to outline just the screen section you want.

Once you've taken the clip, you'll be able to place it wherever you want on the screen. You can rotate that image, by single degrees if you wish, around any of the three axes: X (horizontal, Y (vertical), or Z (depth). You can also stretch (resize) that image along the X and/or Y axes. It's also possible to quickly invert (flip) a clipped image. Or you can make a mask of the clip buffer, changing all of its colors to a single color.

Other drawing tools include "Separate" which will change all occurrences of any screen color to any other selected palette color. And you can Defocus, a primitive kind of anti-aliasing which will smooth out those ol' stairstep jaggies.

You can save/load individual screens in *Neochrome*, *Degas* (standard or compressed), or *Degas Elite*'s block (.BL), like the Amiga's .IFF) format. Using the .BL format load, you can load a screen created in any ST resolution. A screen created in high resolution will be four times the size of a normal low resolution screen and could then be used as a scrolling background in *Cyber Paint* animations. These supported formats also give you the obvious choice of using more sophisticated drawing programs to create your images.

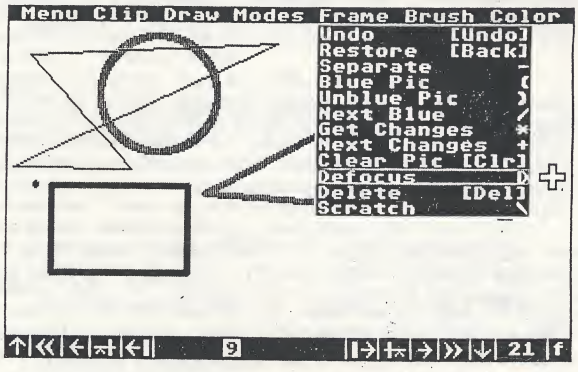
Animation

Cyber Paint offers a number of ways to animate objects. These animations can be played over a determined sequence of frames or over all of the frames you've created.

One way of animating is to use an object from the clip buffer mentioned above and have it rotate/move/stretch from one place to another over a set of frames. This movement, or in-between steps from one point to another, is called tweening, a simple and easy way to create motion.

Another way to create animation, one requiring more effort, is done by drawing an image on one screen, going to the next screen where you'll see a "blue" mask of that image, and then redrawing the image with the changes you desire. The blued mask is used for reference, so you can see how your previous frame looked. Once you've finished a frame, the blued part of the image will disappear, leaving only the freshly drawn part of the image. (This process was also used in Flicker, an early version of *Cyber Paint* (START magazine, Summer 1987.))

You can have the entire frame blued and needing a redraw. Or just have a small section to redraw (to animate), leaving the rest of the image unchanged. The changes, done over a series of frames, will create the actual movement. (The word "blue" or "blued" comes from a term used in offset printing and refers to an image part that will not photograph or print. In *Cyber Paint*, the actual screen color will be the one in the second color box and may, or may not, be blue.)



You can create animations within CAD 3D 2.0 and load them into *Cyber Paint*. Also, a program is provided to change an Aegis Animator .SCR animation file into a Cyber Studio .DLT file. This ability to combine animations is clearly very powerful and very useful, allowing you to enhance with the features here.

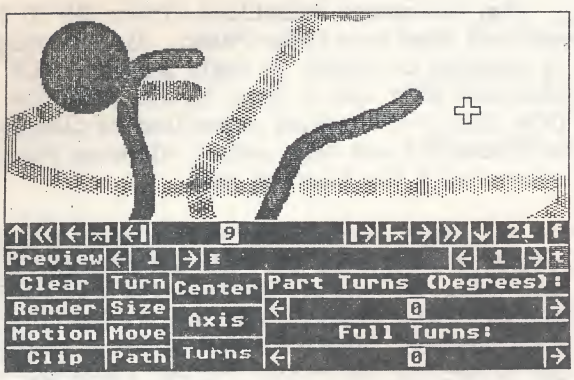
Individual screens can be loaded as a background or foreground for your animations. You can, using the overlay and underlay options found in *Cyber Paint*, develop multiple layers of animated effects. These overlay/underlay options can be set for individual frames, frame sequences, or the entire animation. Individual screens (*Neochrome*, *Degas*) and the animations created with *Cyber Paint* can be an overlay or underlay. Animations from CAD 3D 2.0, however, can only be loaded normally, not as an overlay or underlay.

Other tools include the ability to: save/load color palettes, although you cannot have more than one palette within an animation; save/load cel files for *Aegis Animator*; save your *Cyber Paint* animation as a strip (.STR) animation for use in *Aegis Animator* (unfortunately, this uses too much memory to be really useful); set the overall speed of the animation; go to "Scratch" which allows you to flip through animation frames by moving the mouse; save/load just part of a *Cyber Paint* animation (Patch); set the animation to repeat its plays just forward or back and forth (Ping Pong); and save/load animation .DLT files, used by *Cyber Studio* and its animation language "Cybermate". With this last feature, you can develop an animation within *Cyber Paint* and then save it as a .DLT file to fine-tune within "Cybermate", perhaps to include sound effects.

ADO F/X

This is where a lot of the excitement is found. The menu for ADO F/X (Antic Digital Omni-mover effects) offers four important functions you use to control the overall motion of your animations. All of these occur over a number of frames, either over a marked sequence (and the sequence is easily varied) or over the entire animation. Also, you can set these choices so they'll either affect the image in your clip buffer, or affect the entire animation you've already created. The possibilities are: Turn, Size, Move, and Path.

Turn. You'll first set the center of rotation using coordinates for the X, Y, and Z axes. This is set by moving sliders for each axis. You can also set the center for the X and Y axes by moving the mouse to a selected screen position and clicking. It's also possible to do a quick click for the default settings, making the center of the turns the same as the center of your clip



or screen. You can choose the axis, or axes, for the rotation. And you can set the number of turns in the rotation, in full turns and single degrees.

Size. Here you'll set the amount your image will shrink or expand over a sequence of frames. It's also possible to place the vanishing point on the screen for your shrinking/expanding art.

Move. Set the X, Y, and Z axes points to mark the end-point for your moving image or sequence. This is done with slider bars. You can also set the X and Y axes by moving the mouse on the screen and clicking at the proper point. You'll still need to set the Z axis with the slider.

Path. If you're after something more complicated than the straight line motion that's possible with the Move choices above, then take a look at Path. Path offers three ways of setting up the crooked path for the crooked man.

One possibility is to determine an exact path by plotting points on the screen. One at a time. Very precise. A second method helps show off your rhythm. Click on Clocked Sample Path and you'll watch a clock wind down as you mark your path. An animation that will run two seconds (based on number of animation frames and speed of overall animation), gives you two seconds to set the path. If that sounds too much like Beat The Clock, try Sampled Path. This third method lets you simply hold down the mouse button and trace out your path.

After you've set the functions (Turn, Size, Move, and Path), you can quickly Preview the settings. A wire frame will show the motion. Not quite right? Make the adjustments. Preview again. Quickly done.

When you're sure it's all correct, click on Render, and the actual screens will be drawn, each taking a couple of seconds to be drawn using your ADO F/X settings.

In going after very precise positioning, you can use these settings to mark both the position of the first frame in an animation and the motion of the running animation. That's right. Use this ADO F/X menu to exactly place the first frame in your animation; then use a different set of ADO F/X settings to determine the motion of the playing animation. These settings can be saved to disk, so you won't have to always reinvent the wheel. Or the crooked path.

While the ADO F/X section is clearly most useful, it will obviously take some practice to use proficiently. When these effects start interacting, with multiple objects each following separate paths and the entire animation going its own direction, you've got something enjoyable and exciting and challenging.

Other Notes

Drop-down (although not completely GEM) menus give access to features of the program. You'll soon learn the keyboard alternatives for many of them, as drawing is done only on a full screen. The animation is controlled via a playback bar shown across the bottom of the screen. This bar has VCR-style icons and allows you to play the animation in either direction, use fast speeds, insert single frames before or after the current frame, click to immediately go to the first or last frame, or slide the frame counter through the animation to find a specific frame. When you're using other menus, such as load/save or ADO F/X which are also placed at the bottom of the screen, the playback bar is also available.

Written by Jim Kent, author of *Aegis Animator*, *Cyber Paint* is sophisticated and powerful software. It's capable of helping you develop very complex animations. Using the program, you'll notice a crafted feel, a professional polish.

This polish is made evident in many areas. You'll notice the careful thought that went into the menu structure. Unlike many other programs, the menu process here seems designed for the your ease of use. The layout is clean, quickly usable, and logical. The important keyboard alternatives are well-chosen and will be quickly learned.

Cyber Paint ($69.95) is not copy protected. It requires one-megabyte of RAM and a color monitor (low resolution). The disk includes a player program designed for animations from both *Cyber Paint* and *Cyber Studio*.

Documentation. The 158-pages come in a 3-ring binder. Three tutorials will guide you through the software. A reference section explaining each command takes up about 1/3 of the text. You'll also find appendices adding additional hints, tips, and details on file

formats. A card stock page listing keyboard alternatives is included.

The tutorials are well-done, although I thought a little less emphasis on the drawing tools and a little more on the ADO F/X would have been an improvement. Adding a bit of bold type in some of the longer sections would have improved the readability of it all, too.

Downside. Be aware that the length of an animation you'll create with *Cyber Paint* will be quite short: often less than 10 seconds with a one-meg machine. The documentation suggests tying your ST to a VCR, and a Sony 8mm is recommended for its editing capabilities. While the software is completely enjoyable without taping the output, the serious users, those after longer productions, will be looking to tape.

Final Comments. This program is much like an octopus. Its tentacles reach out to other major formats, whether for individual graphics frames or for complete animation sequences. You're supported with the two major ST screen formats (Neo and *Degas*) and different screen resolutions along with two other popular animation formats (*Cyber Studio* and *Aegis Animator*). This is in addition to *Cyber Paint*'s own separate animation format. You can generally save and load from one to another with little hassle.

Cyber Paint is easy to use and is capable of creating absolutely dazzling special effects. Here, it seems, we've got one jet-propelled creature from the deep.

[The Catalog, Antic Publishing, 544 Second St., San Francisco, CA 94107 (415) 957-0886]

CLASSIFIED ADS

WANTED: 800XL – must have RAM and OS chips in sockets. Also need a copy of March 1986 CN. Please write to THOMAS M. SPEAR, HQ V Corps-DEH-Hsg Div, APO, NY 09079

AVAILABLE SOON: The Atari ST Book of Tips, Instructions, Secrets and Hints. 15 chapters: RAM disks, files, Item Selector, AUTO folders, copying, DESKTOP.INF file, color palette, desk accessories, booting, printers, modems, word processors, public domain software, list of over 20 magazines with ST coverage, and many other subjects. Contains information available nowhere else. For free information, write: ILP Publishing, P.O. Box 1822-4, Fairfield, IA 52556.

FOR SALE: Atari 800 with 288K RAM, fully Axlon compatible, can be used as Ramdisk or accessed from Synfile and other Axlon compatible software. Ramdisk software available for SpartaDOS 1.1, TOPDos, MYDOS, MACH-Dos, DOS 2.0 and DOS 2.5. $129. Atari 810 disk drive with Happy modification. Triples I/O speed and allows backup of protected software. Includes Rev 7.0 ROM upgrade, compatible with 1050 Happys in multi-drive system, excellent condition, low-millage, $155. Atari XDM121 Daisywheel Printer (8-bit) NEW $135. Signalman Mark II 300 baud modem for 8-bit NEW $17. Kensington 300 baud modem for Macintosh NEW $17. Macintosh 64K ROM's (for Magic Sac) $39. Intec 32K RAM expansion board for 400/800 NEW $15. Atari 16K RAM board NEW $10. Atari 400 computer like new, $35. Atari 822 Thermal Printer NEW $27. Atari 600XL w/64K internal RAM, $49. Atari 2600 VCS Game chips, 10 for $3. Call Dennis at 814-833-4724 after 5PM EST.

ULTIMA IV

The Greatest Ever Written?

Review by Bob Millard

One of the (arguablely) greatest novels ever written, Gustave Flaubert's Madame Bovary, was initially serialized, causing great anticipation between installments. The man who has written the book, so to speak, on computer role-playing games is Richard "Lord British" Garriott, author of the Ultima series who creates the same kind of anticipation with each new release. Critics and surveys are generally in accord in citing the current version, *ULTIMA IV*, as the (arguablely?) greatest CRPG ever written, and now, nearly two years after its eight-bit release, *ULTIMA IV: Quest of the Avatar*, is available for the ST. Like *Ultima III: Exodus*, Origin Systems has presented a fairly strict translation, but the ST language, if you will, is so much more colorful and precise than the author's native tongue, the Apple II.

A Puff of Smoke

ULTIMA IV establishes one of its purposes from the start: that the player be involved primarily with the plot, and less concerned with the "D and D" statistics inherent to fantasy games. The beginning involves the player in a present-day vignette, seated before a gypsy at a Renaissance festival. She asks a series of questions that explore the player's human values, and from the responses one of eight professions is chosen for the player's character. A figurative puff of smoke then sends the player into another world, a world the veteran fantasy gamer recognizes as the scrolling terrain of an Ultima surface world map. The character icon will appear outside the town that specializes in the player's profession. Though seven more characters will eventually join the quest, the player doesn't assign attribute points for any of them.

Much of the game's balance was determined on the side of disengaging the player from statistical concerns. As the plot's objectives are pursued, statistical achievement becomes nearly transparent. This is an important breakthrough for all fantasy games if the hack and slash emphasis of the genre is to be transcended. Only at game's end did this reviewer play for statistical achievement alone, when the final party member would not join until the avatar-to-be had increased another level. Almost perfect timing, Richard!

Another of the designer's objectives in Avatar was to correct the weak points of Ultima III, especially those made conspicuous by competing fantasy games. Most importantly, monster variety is increased, up from ten in Exodus to forty-four in *ULTIMA IV*. The surface map, called Britannia, is sixteen times the area of Ultima III's Sosaria, roughly sixteen feet by twenty feet on an ST monitor. And there is no disk access while traveling it, as in the eight-bit versions. There are eight characters in the party now, up from four in Exodus. Combat has several new options, including moving any party member off of the many different, terrain-encumbered combat screens. It's still the best battle system in the genre: real-time with simple tactical movement. The frenetic winds of Sosaria have been tamed in Britannia, so ship travel is less frustrating and more realistic.

There is only one major graphic improvement over the ST version of Ultima III, but it was an unexpected treat: the first-person dungeon perspective includes detailed stone walls and wooden doors with metal handles! They are not as nice as in The Bard's Tale or Dungeonmaster, but they have at last brought Ultima's dungeon graphics out of the dark ages. Character and monster graphics are still little better than in the eight-bit versions, but the use of color makes quite a difference. Cute but tasteful best describes Garriott's art work. Because of the small scale that is essential to its system, Ultima can never compete with the lush monster graphics of Phantasie III or The Bard's Tale. But judge not this tome by its binding.

Perserverance or Death or?

So what of this marvelous, epochal plot, if the graphics are comparatively unspectacular? As stated, the player begins alone outside the town of his profession, and proceeds to do Ultima kind of things: fight creatures, explore the lands, and talk to townfolk. Eventually perseverance, death or the moon gates will bring him before Lord British, who will clarify the calling. There are no evil entities to vanquish in Britannia anymore; rather, the people seek a spiritual leader, one who has not only bested the evil in this world (and there's still plenty of it), but one who has become the embodiment of good in deed and thought. The quest of the Avatar then, is to gain inner wisdom before journeying to the Greater Stygian Abyss, to descend its eight levels and enter the codex chamber where the player must prove his

knowledge to be proclaimed an Avatar. Most of that knowledge will be gleaned from the roughly 200 inhabitants of Britannia, who will relate information if the right subject is brought up by the player.

A Lot To Say

Considerable time will be spent in conversation -- this reviewer finished with fourteen pages of dialogue notes alone. These folks have a lot to say about the eight recognized virtues of Britannia -- compassion, sacrifice, valor, honesty, honor, humility, justice, spirituality -- and the three principles of virtue -- truth, love, and courage. Don't fret, this stuff isn't as deep as the works of St. Thomas Aquinas -- it's a lot closer to a Leo Buscaglia lecture. And it's all part of the game's grand puzzle, so write everything down. The Britannians will also provide clues about the eight runes needed to enter eight shrines where you meditate upon the eight virtues practiced by the eight professions in the eight towns. Meditation brings insights as to how an Avatar lives each virtue, and you'd better follow them to win. And be ready to answer twelve questions on Avatarhood when you finally reach the codex chamber, halo and all.

The Atari eight-bit version of *ULTIMA IV* didn't include Ken Arnold's continuous music score in order to work on 48k machines. The ST version, of course, does. Those who read the review of Ultima III in the May 1987 issue of *CURRENT NOTES* know how this reviewer feels about Arnold's work: he's peerless among CRPG composers. A slight edge goes to the score for Exodus, but this is still signature Ken Arnold material.

Casting spells in *ULTIMA IV* is less dependent upon high attribute levels than in *Ultima III*. Instead, casting the most powerful spells is determined by finding reagents that are mixed together. Although most reagents can be bought in a few shops, the best ones must be discovered, and that may take some time.

Possibly the most interesting new device in *ULTIMA IV* is the dungeon chamber. Essentially these are fixed combat screens that pose tactical problems, both in handling the deviously-positioned monsters therein, and in negotiating the twists, turns, precarious bridges, secret doors, and other obstacles between entrance and exit. The dungeon chamber is the perfect vehicle for Garriott's unique inventiveness, and this reviewer wouldn't mind a dungeon of nothing but chambers. (An overworked mind in Londonderry, New Hampshire just screamed within itself.)

A Wondrous World

For all the evil confronted in *ULTIMA IV*, there is little bad to be said about it. Bob Hardy handled the 68000 code once again, and only one trivial bug, a scrolling dungeon ladder, was found in the course of this review. The only change needed is to display magic points as well as hit points during combat, although it's possible that Garriott intended the player to be unsure of spell casting success. Game balance really is on the side of the player; the party handles the rigors of Britannia quite well. If the eight-hundredth digitized utterance of "domine y requiem" had you calling that other game "The Bored's Tale", Avatar may be just the right elixir. (Not that Interplay doesn't have a fine game, just that it's combat-intensive, maze-exhaustive, and so very linear.)

Lovers of literature probably sneered at the beginning of this review. Indeed, comparing Garriott's work with Gustave Flaubert's masterpiece is absurd, but finishing Quest of the Avatar was like turning the final page of an epic. Lord British has created a vast, wondrous world in *ULTIMA IV*; by comparison *Ultima III* seems, in retrospect, simplistic. Any day now, *Ultima V: Warriors of Destiny*, will be released for the eight-bit systems. If it, in turn, dwarfs the achievements of Quest of the Avatar, then Messrs. Flaubert and Garriott, you're both artists in this writer's book.

GUNSHIP

Fighting Your Way to the Top

Review by Roger Abram

Help! I'm being held prisoner at my computer by *Gunship*, MicroProse Software's captivating new helicopter simulation. Available on other systems for a couple of years, the ST version arrived in area stores in mid-February and has become a brisk seller. And for good reason -- it is superb.

At the controls of the sophisticated AH-64A Apache attack helicopter, you must battle your way to primary and secondary targets in four hostile areas: Southeast Asia, Central America, the Middle East, and Western Europe. Training is provided in a fifth area, the U.S., where you'll receive your first and only guaranteed rank promotion to that of Warrant Officer. All other promotions and medals must be made the old fashioned way -- you must earn them.

Upon beginning the game you enter a name for the pilot. As long as that pilot remains healthy (i.e. alive), you can continue to use him on various missions. Successful completion of missions are noted in the pilot's record and eventually lead to promotions. Decorations and medals are also awarded for bravery, heroism, wounded in combat, and regions of service. Understandably, the ultimate goal in the game, apart from not being shot down, is to be promoted to full Colonel (the highest rank where an officer can still fly combat missions) and hold as many ribbons and air medals that can fit on your chest.

Among other things, success means flying low through enemy territory, knowing what each type of weapon you have is most effective against and how to use them, hiding behind mountains to evade tracking systems, and how to respond when enemy positions are firing at you. One direct hit could either bring you to the ground or cause enough damage that you'll literally have to fight the joystick to maintain control as you careen back to the base.

Barring any unforeseen damage, the AH-64A is a relatively easy craft to maneuver using a keyboard/joystick combination of controls. The mouse can be used, but a joystick is recommended. The package contains a template that fits across the entire ST keyboard and commands associated with each key are only a glance away. *Super Huey*, which we looked at last month, suffered from inexact and cumbersome controls. Apart from learning some of the dynamics involved in helicopter flight, it wasn't very enjoyable. *Gunship*, on the other hand, provides a middle ground between a pure helicopter simulation and a commercially successful game that is fun to play.

Graphics in the game are top-notch from everything to the cockpit to the landscape. Each area is filled with roads, streams, hills, and of course, enemy locations. You can actually hover behind a hill and then dart out with guns blazing. Enemy volleys can be seen bursting in the air in front of the helicopter when they miss or shaking the chopper when they connect. Graphics in each geographical area, however, are virtually identical. The major difference is in the sophistication of the weapons that the enemy has in their possession. It is much harder to survive in Western Europe than in the rice paddies of Southeast Asia.

The cockpit is divided into two main parts: the indicators and gauges on the bottom half and the armored glass (window) on top with either forward, left, or right views. The gauges include the necessary altimeter, airspeed, attitude - artificial horizon, and fuel. Unique to helicopters is the torque gauge and rotor engaged warning light. In addition, the AH-64A has indicators for radar warning and jammer, infra-red warning and jammer, threat display, CRT display, system damage lights, Inertial Navigation System, armaments available, and TADS (Target Acquisition & Designation System) box reticle.

There are many other screens associated with the game. The Stores Status Display lists the status of your weapons and fuel and whether or not these systems are functioning. The Systems Damage screen provides updates on everything from the rotor to the flare launchers. The Sector Map is used extensively to show your present position and the terrain that lies between you and the main targets. It is on this map where the Inertial Navigation cursor can be set to act as a course guide in the cockpit. Other screens available after a mission include the pilot peeling potatoes after abandoning his helicopter behind enemy lines, receiving a promotion for an exceptional track record, or receiving the Distinguished Service Cross.

To assist in becoming a highly decorated officer, the AH-64A is equipped with the Target Acquisition and Designation System (TADS) which locks onto targets and keeps tracking them while you fly. Its laser rangefinder and ballistic computer work in conjunction with your onboard arsenal to provide the ultimate in effectiveness. Guided by the TADS system are the 30mm chain gun and the Hellfire missiles. The gun is automatically aimed by TADS, while with the Hellfire the laser acts as a designator which guides the missile to its destination. Operating independently from TADS are the Folding Fin Aerial Rockets (FFAR) and Sidewinder missiles. The FFAR has to be aimed manually while the Sidewinder is an infra-red air-to-air missile which will seek out its own target.

The program comes with a comprehensive 80 page Operations Manual. After a few unsuccessful missions, you'll realize that most of the book must be read to fully understand and utilize the capabilities of the helicopter. Tips on offensive and defensive tactics are provided as well as information on the types of weapons the enemy will have in each geographical area.

In keeping with MicroProse's tradition, part of the manual contains drawings of various military equipment and upon booting the program you'll be asked to identify the onscreen piece of equipment from the sketches in the manual. Get it wrong and you'll find yourself at the training site in the United States. In addition, 16 different passwords and countersigns are listed in the manual. When flying back to the base, you'll be given the password and have to correctly type in the countersign to identify yourself as a friendly chopper.

Gunship is an excellent game which I highly recommend. It does, however, have two minor quirks: occasionally the onscreen map becomes garbled and on different occasions the weapons system refused to fire even though no damage had been suffered. If this happens to you -- don't panic -- drop down low and fly out of the immediate area. As long as the craft isn't damaged, they will become operable again. If you return to the area in question, my experience has been that they will again refuse to work.

The game comes on two disks and will only work on a color monitor. Instructions are given on how to run it from either a hard disk or a ram disk of 512K. Disk A, however, will have to be present in Drive A at start-up time.

[*MicroProse Software, 180 Lakefront Drive, Hunt Valley, MD, 21030, (301) 771-1151. List price is $49.95.*]

RELAX AND ENJOY

By Joe Kuffner, (c) 1988

A GLIMPSE INTO THE FUTURE

By the sound of this month's column title, you might think that I'm going to be talking about Jesse Jackson as President -- or maybe even George Bush. Or, how about this -- your taxes being completed PRIOR to reading this?! Well, I'm afraid that my glimpse into the future is a little more realistic (and conservative, too!). I'm reviewing a new piece of software from Europe that I'm sure will be a hit when it's officially released here. That program is *Bubble Ghost*, programmed by Christophe Andreani for ERE. Also on the agenda for our relaxing pleasure is my PD-of-the-Month selection: *SQUIXX*, quite a good version of the arcade classic, *QIX*. I'll also have a look a program that no ST user should be without: *DC Formatter*.

Bubble Ghost

The ingredients required in a game for it to be a success are difficult to isolate. Evidence of this can be found in most computer games because very few are successful. An author, publisher and distributor must team up to touch up a raw product or idea. A little of this, more of that, and so on, until the product is released. It's no secret that most of the existing, popular games are simple to play, have an addictive theme, frustrate, yet challenge, and provide a measurement of performance on a relative scale (points and levels). Then with luck, the game will be success. *Bubble Ghost*, I believe, will be this success because it includes all of these elements, enhances them and adds cute graphics and sound for a fun game.

After loading the program, a warm, digitized, "Welcome to Bubble Ghost," greets you into a game you won't be turning off for some time. A click on the mouse gets you started. You are the Ghost. Your mission: navigate your soap bubble through a series of mazes and screens, all the while using your wits and limited ghost-talents to survive. I found this part of the game reminiscent of *Montezuma's Revenge* on the 8-bit machines.

Your ghost is capable of movement in any direction, as is the bubble. Your only means of controlling the direction of the bubble is to have the ghost "blow" in any of eight directions. Rotation of the ghost (with the mouse buttons) enable the blow direction to change and thus, that of the bubble to change. The bubble bobs its way through the air at two speeds -- panic fast or excruciatingly slow. You must weave within walls, around pins, fans, heads, flowers and several other graphically detailed animate and inanimate objects in your quest through the maze without bursting your bubble. You start with five bubbles and earn additional ones along the way. Your blowing is controlled with any of the [Control], [Shift] or [Alternate] keys. This turns out to be an instinctive and accurate way to manipulate your ghost.

A couple of limitations make it all the more interesting. Your wind is limited causing your ghost to turn red with exhaustion when you overwork it. You'll have to await its breath to return while watching the bonus point scale wither away. That's right, a timer. The faster you accomplish your tasks, the higher the score. Speaking of which, I've only been able to get to screen 25 (score: 97,300), so I've no way of knowing if there really are 36 different screens (at screen 18, a "half way" sign is flashing). But I'm still trying to reach the end.

The second major limitation is that the ghost is unable to leave the boundary of the screen (it does go through walls). What, pray tell, is the implication of this, you ask? I'll tell you. If the bubble gets too close to the edge of the screen, you'll not be able to get to the other side of it to blow it away from the edge. Thus, a bubble-sacrifice is made.

The program runs in low resolution only, but the colors and graphics earn your respect. Flickering candles, rotating fans, and laser beams are but a few examples of the continuous animation. The game also provides an automatic high-score save, but does not provide a game save nor a game pause feature.

The colorful screens, smooth animation, and appropriate sound effects are a tribute to fine programming and enhance a fun, addicting theme to bring a great arcade game to your computer. I had a lot of fun reviewing this program and I know that you will enjoy playing it, too. If you see it, buy it. *Bubble Ghost* certainly has earned its way into my library.

PD-OF-THE-MONTH

Popular arcade classics are like expensive, old wines -- great to enjoy and they just keep getting better the longer you leave them. In fact, even better. The classic arcade games that show up as public domain are not even expensive. A good example is *Squixx*, programmed by Michael

Kolb. In this monochrome-only game, the object is to block off areas of the playing area while avoiding the roaming "Squixx" and its equally dangerous allies, the "happy faces(?)" that keep multiplying as time passes.

Squixx maintains the excitement of the original game. However, the lack of color is noticeable and is a major weakness. Brief sound effects and smooth animation round the game out. If you miss playing the original version and would enjoy putting your "joystick wrist" back to work, then this one's for you.

Although I normally only talk about games in this column, I'd like to make an exception this time to tell you about an outstanding PD utility that is readily available from many PD sources. If you don't have it, get it!

I'm referring to *DC Formatter* from Double Click (hence, DC) Software. This formatting utility, available in program and accessory format, will solve your formatting and copying problems. It will format and copy 80-82 tracks, 9 or 10 sector, Magic Sac disks, MS DOS disks, even boot disks! And if that's not enough, it'll even create "fast" format disks. It comes complete with instructions, help screens and easy to use mouse control. You won't be able to relax until you get this program. It is programmed by Paul Lee and Keith Gerdes.

In case you are wondering where to get hold of PD programs, I'll explain the four major sources of PD software that I know. The first is *CURRENT NOTES*, by mail. A list of available programs is published in each issue and ordering instructions are provided. The second source is your local ST user club. Each club maintains a library of new and popular public domain titles for your selection. The third source, and also the most current, is bulletin board services, either a commercial BBS or one sponsored by your local user group. The last major source is you, or a friend, who programs a piece of software and is willing to put it into the public domain for others to benefit.

Good quality PD software rivals equivalent commercial products and frankly, technically exceeds the programming of others. If you come across an excellent piece, let the world know, then relax, and enjoy it.

POLICE QUEST

In Pursuit of the Death Angel

Review by Dan Greenblatt

"Another chapter ... in what it must be like ... to strap on a gun ... and pin on a badge ... AND BECOME A LAWMAN!!!!" Apparently Sierra On-Line didn't like Nino Greasmanelli's idea of a police officer, however. *Police Quest* is about as close as anyone's come to a simulation of a police man's daily job -- not only "the big bust," but the mediocrities of the job as well.

One of the main reasons for *Police Quest*'s high degree of reality is its designer, Jim Walls. Walls is a 15-year veteran of the NYPD, and as the box says, he's been through everything, "from stopovers at the local coffee shop to shootouts in Central Park." And after you become acquainted with the game, you'll find that there is much more to be encountered along the lines of the former than the latter.

You start life as "Sonny Bonds", a hard-working cop in the fictional town of Lytton, CA, with no apparent purpose. Your ultimate goal appears, though, as you pick up the morning paper and read about the drug problem in the city. There's a big-time drug trafficker, named the Death Angel, out to cause trouble and flood the city with crime. But that will have to wait, for as you close the paper, other officers file into the briefing room and take their places for the 1300 shift. Sergeant Dooley comes in to brief you and your colleagues on the latest news and criminal activity. He assigns you your call number and tells your group to hit the streets. You dash to your locker, grab your briefcase, gun belt, speed loader, radio extender, and car keys, and head for your patrol car, ready to begin yet another battle in the war against crime.

However, for the most part, your battle means issuing traffic tickets and just cruising your beat. It takes an awful lot of cruising before you can find somebody with a disregard for the major sections of the penal code. You have to face the fact that a policeman's life isn't all shootouts and "Dirty Harry" law enforcement. You have to contend with a judicial system that doesn't like to be party to such behavior. Procedure is the name of the game here.

But how does the game play? Very nicely, thank you. The game uses the standard Quest interface, which is dependable, just like in *Space Quest* and the *King's Quest* series. The game accepts a wide variety of text input, much like its predecessors but not quite rivalling Infocom in its flexibility. Graphics are fairly crisp and movement isn't jerky while on foot or at slow speeds in your car, but your car jerks when you go Code-2 or Code-3.

A joystick isn't a must, but I highly recommend using one. This isn't a gripe, merely an annoyance. You see, if you stray from police procedure just a little bit, the game will shut down on you, and that's a promise. If you have an accident, or even jump the curb, your game is over. Even if the accident was caused by another driver cutting you off, such as making a left turn across your path of travel, you're through. Also forget about right turns on red, as they will finish you off too. Running any red light without going Code-3 first kills your game. Leaving your door open will finish you off, because when you get back, your car will be quite gone. Cuff a criminal wrong, or act a moment too soon, and you'll be wasted -- just like that.

The indoctrination manual ought to help in this case. It tells you about arrest procedures, handcuffing procedures, appearance guidelines, and outlines of radio transmissions, the penal code, and the vehicle code. Before you play, read it thoroughly, and try to memorize it. After all, it's hard to look up how to keep a suspect at bay when he's pulling a Smith & Wesson out of his pocket. It's even tougher when the game is in real-time, as this one is. But you can learn to adapt after enough tries.

Another small gripe I have is the incessant disk-switching. *Police Quest* consists of three disks, and the programmers, Greg Rowland and Al Lowe, didn't seem to have the foresight to put any major length of continuous play on any disk. Two drives don't help, except that the save game function will accept any drive, and can save up to twelve games on one disk. Hard drive owners will definitely have it easier, though, as Sierra included a hard drive installation program that will create its own folder for the game.

But despite the disk-switching problem and the procedural nit-picking, I would recommend *Police Quest* for everyone from beginners to advanced adventurers. The game presents a unique twist on the old Quest themes. Its originality should speak for itself. Playability is fine, and I anxiously await the creation of the promised *Police Quest* II. Hey, it's probably the closest most of us will come to actually being a cop.

[*Sierra On-Line, Inc., P.O. Box 485, Coarsegold, CA 93614. Monochrome or color, 512K. Joystick optional. Not copy-protected.*]

Review of Drafix 1 For the ST

by Robert Fernandez

Review of Drafix 1 Computer Aided Design (CAD) version 1.0 from Foresight Resources Corp. A two dimensional (2D) design package for the Atari ST.

System requirements:

Drafix 1 will run on an Atari 520ST or 1040ST, with both monochrome (640x400) and color (640x200) monitors supported. All drawing and editing is done in RAM, therefore it is recommended that the package be used on a 1040ST or upgraded 520ST as the size drawings and their complexity are limited by available RAM. The package supports both floppy and hard disk systems.

CAD systems are typically defined as object generating systems that give a user the ability to manipulate, store, and retrieve any of the objects created. Foresight Resources defines its Drafix 1 CAD system as a graphic item (eg. object) generating system. The items created have dimensional geometric and coordinate data like starting point, end point, length of a line, and line type (dash, center) related to them.

Drafix 1 is a software package that takes full advantage of the GEM interface allowing for the graceful and easy creation, placement, and manipulation of graphic items. The package is a direct port of Foresight's Drafix 1 for the DOS 2.0 PC (IBM) compatibles, written in C (Mark Williams C) for the Atari ST product line. This review of Drafix 1 was done on a monochrome 1040ST system with a Supra 20 mb hard disk.

The system is delivered with three very well written manuals to help you along into the world of CAD on the ST. With the help of the "Setup and Installation Guide" manual, installation and configuration of Drafix 1 on the ST is straight forward. The "Getting Started" manual takes you through a series of tutorials on how to create your first parts, and the sublties of item creation and manipulation. Finally, the "Technical Reference Manual" contains a complete list of all the drafix functions and operations. All together a very complete package.

After the Drafix 1 CAD package loads you are greeted by a screen (see **Figure-1**) bounded on top and left by a series of menus, while the bottom of the screen

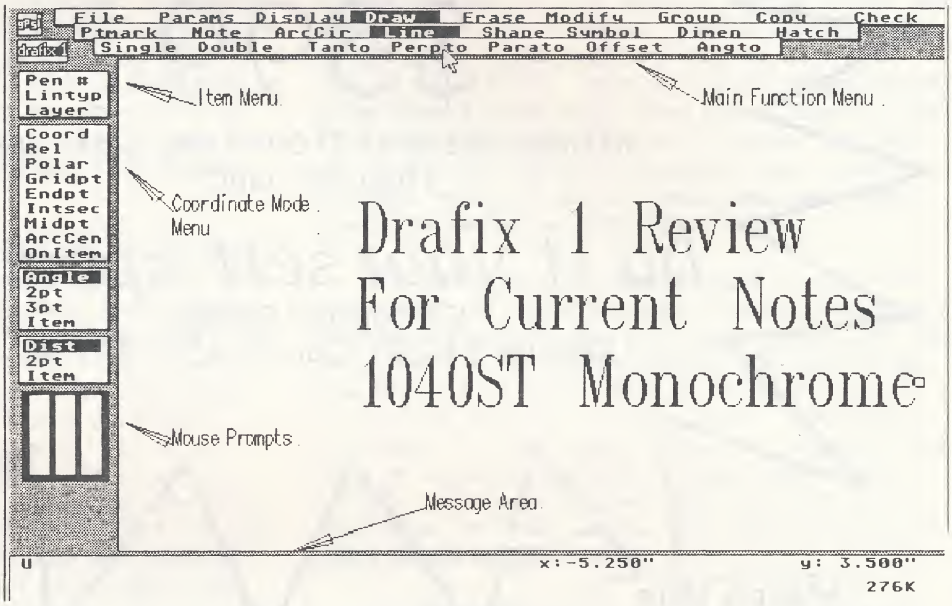


Figure-1

has a message and text input area. Commands are given to the system through the use of the mouse or keyboard input which allow item creation, manipulation, or drawing management to occur. For this review I have divided the presentation of information into four major categories: User Interface, Item creation, Item manipulation / View Control, and Drawing Management. Since Drafix 1 is such a feature-rich system, this review is written in two parts. Part I will contain the User Interface and Item Creation catagories while Part II covers Item Manipulation / View Control and Drawing Management.

User Interface:

The user interface is one the most important aspects of any CAD system. Presentation of information, commands and prompts must be done in such a

way that it minimizes the effort required to create, edit, manipulate and maintain graphic items. Individuals should never have to take their eyes away from a work area in order to input information to the system. This is one of the areas in which drafix excels.

Let's take a look at how drafix implements its of user interface. When creating a line item a user allways sees commands that are available to the system (see **Figure—1**). Across the top of the screen is the main function menu. When a function is selected from the menu with the left mouse button (LMB) a submenu appears to allow selection of options or parameters associated with that function. For example : selecting (with LMB) Draw, Line, Single, is the selection sequence for placing a line in the drawing. The selection sequence remains highlighted during the execution of the command. This implementation allows users to have command sequences on the screen without having to memorize keystrokes.

On the left hand side of the screen there is a series of menus that aid in the changing of input modes. While working on a design the user can change item line type, pen # (color), and layer that is being worked on by selecting with the LMB. Just below is the coordinate input mode menu that allows one to change input definition modes while in any of the main function commands. This enables changing from any one input mode to another without exiting the present function that is being used. I have found that this increases speed of inserting and editing items without sacrificing accuracy. This aspect of drafix will be detailed in the next section.

At the bottom of the screen is a three line message area used for; x-y coordinate display, available drawing memory, current time, input of notes, and system prompts. At any time during the drawing session all this information is available to the user.

Drafix mouse interface was designed around the popular three button mice found on PC systems. The ATARI-ST implemented a two button mouse on which the drafix software enables full three button functionality. This is done in conjunction with the mouse prompts window, located on the lower left hand corner of the screen (**Figure-1 and Figure-2**). The left and middle window functions are enabled by selection of the left mouse button (LMB) and right mouse button (RMB), chording (press both buttons simultaneously) of the LMB and RMB give the third function. For example, the move function in the third mouse prompt in Figure-2 is obtained by chording LMB and RMB.

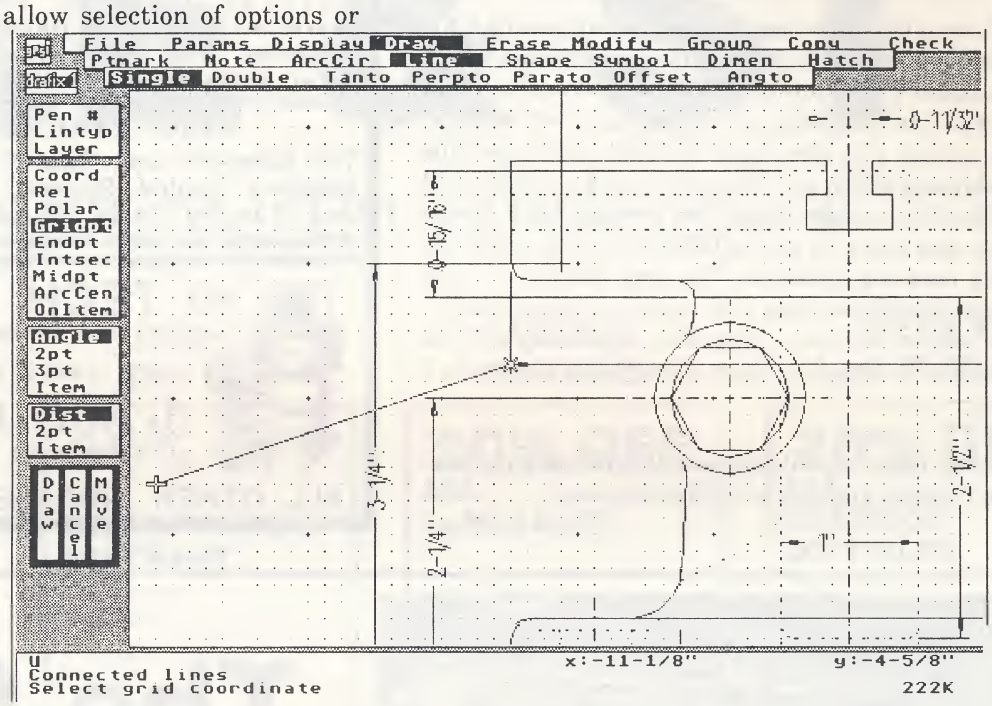


Figure-2

Lastly there is the keyboard, on which have been implemented a series of short (single key) commands for different input modes. All these give a user of the system total flexibility and control of this two dimensional CAD package.

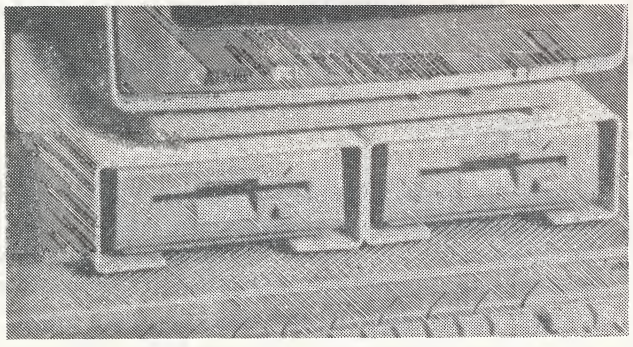
Item Creation :

Drafix 1 items are lines, circles (arcs, ellipses, and fillets), points, notes (text and dimensions), polyline shapes (rectangles, polygons, and paths) and symbols. Each one of the items can be created by digitizing locations, in a variety of input modes (see **Figure-1**, Coordinate Mode Menu), in the drawing window with either the LMB or a x-y (delta, coordinate, polar, relative) specification from the keyboard.

Placement of single lines require two points which can be keyboard input x-y coordinate pairs, digitized points, or snapped points (gridpoints, item endpoint, intersection of items, midpoints). A keyboard input feature I found very valuable is the ability to enter mathematical formulas for the positioning of any graphical item. This feature implements standard mathematical programming order of precedence. Additionally you have line constructs for parallel, perpendicular, tangential, horizontal, and vertical. As you can see there is a lot of flexibility in these capabilities which are shared by the other item generation functions.

One of the most important capabilities of a CAD system is the generation of dimensional and text information. This is one of the areas I feel drafix handels well. In addition to horizontal and vertical dimensions, you also have chaining and base line capabilities which are critical for mechanical as well as electrical and architectural applications. Arrow heads and text size are adjustable which make for better view organization. The only shortfall in this area is that dimension and notes are not editable. The vendor indicates that this capability will be available in future versions of the package (Drafix 1 Plus).

Next issue we will discuss Item Manipulation / View Control and Drawing Management.



.TTP PROGRAMS

The ST's Ugly Ducklings

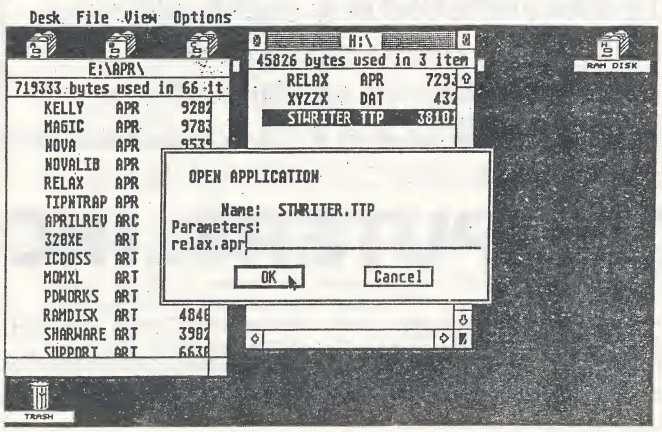
by John Barnes

Every so often a new ST user double clicks on a file for which the last four characters of the name are ".TTP". A rather plain box springs forth and we clutch -- there must be something wrong. No fancy screens, no drop-down menus, not even any clicking and whirring in the disk drives. What kind of an ugly duckling is this? It must be a program; after all the funny little icon is the same shape as the ones for the .PRG files. If we are lucky, when we browse through the little book that comes with our ST's, we find a statement saying that ".TTP denotes non-GEM, parameter taking applications."

All programs use parameters to do their work. GEM programs are allow the user to set parameters by clicking on items in drop-down menus or file selector boxes. Other programs solicit parameters from the user by means of keyboard dialogues or menus. Some programs use values of parameters that were coded into them when they were created. There are no rigid boundaries between these approaches, and many programs use them in combination.

.TTP programs use parameters supplied at the time they are invoked. They may or may not require further input from the keyboard to complete their work. "Parameters" can take many forms. They can be file names, path names, option switches, anything that can be expressed as a string of characters.

In the case shown below, the parameter that STWRITER.TTP is looking for is the name of a file that you want to edit. Type the file name on the dotted line, hit <Return> (or click on the OK Box) and you soon see an editing window with your file in it. Things can be made simpler by using "Install Application" to fix up the desktop so that double-clicking on a file with an extension of, say, ".STW" would bring you into STWriter with the file sitting in the window all ready to edit. What could be more convenient?



The Install Application method is not going to do much good if the parameter list includes switches or if multiple file names are needed. ARC.TTP is an example of a program that uses multiple file names and lots of switches. In this case we might type

"ah archive *.obj"

on the parameters line. Switches are useful in selecting from the many possible functions that the program provides and in controlling its execution. The "a" switch above selects the add function and the "h" switch holds the screen so that the user can forestall the obliteration of messages when the desktop reappears. The rest of the line tells ARC.TTP that we want to take all of the .OBJ files that are in our default directory and add them to the file ARCHIVE.ARC.

Some programs will give us a little help if we click on "OK" with an empty parameters line. STWR1_70, for example, comes up with a menu screen. Other programs will substitute default values for the parameters that are missing. Others will simply do what they are supposed to do without telling us. This is bad because the program might decide to reformat our hard disk without letting us know. A little simple prudence (like reading the documentation) is needed to avoid this kind of disaster.

.TTP programs really come into their own when we move from the "point and click" user interface to a "command line" interface like the one provided by *DO_IT!*, the *Micro-C Shell*, or any of the other programs that serve this purpose. Many people find that typing command lines is positively medieval, but it is often a concise and straightforward way of telling the computer what you want it to do. If we can save a list of command lines in a file and use that file to give the computer a whole list of commands to do, can save an enormous amount of time (and thinking). This is called batch processing, and .TTP programs are ideal for this kind of work.

ST users can have the best of both worlds. The GEM interface is there when you need it, but the command line interface is available when you just want the machine to do its work with minimal human intervention. I find the need to point and click on a dozen different switches and file selectors tiresome when I use certain GEM-based products to do tasks that I do repetitively.

There are several advantages to using .TTP programs:

- They are much easier to write.

- They do not need any of GEM's resources to execute.

- The application can be very compact without code for making GEM calls. SIWR1_70 takes up about 40K as opposed to *1st_Word's* 200K or so.

- More compact programs may make more efficient use of the computer's resources when doing simple tasks and be noticeably speedier.

- .TTP applications, unlike desk accessories, give you back your memory when they are finished.

- .TTP programs fit naturally into a command line environment and are very flexible -- just look at all of the options available with ARC.TTP.

- .TTP applications resemble those in other environments like MS-DOS or UNIX and thus make it easier to port programs between machines.

If .TTP programs are so useful why aren't there more of them? Fickle Fashion is one possible answer - the interface isn't very pretty. But, there are more .TTP programs out there than you think. Much of the time they are hiding beneath .PRG labels. *dBMAN* is an example. I use command lines like "DBMAN DBMSETUP" to set up all of the necessary file pointers and put me right to work on the application I want. That won't work with Superbase or any of the other GEM database managers. The compiler and associated linker for *AC Fortran* will accept .TTP input, which means that all of the steps necessary for the edit, compile, link, and run cycle can be done with one simple batch file command.

I can imagine a lot of programs that would be nifty as .TTP applications. How would you like programs that could do the following:

- take a *Publishing Partner* .DOC file and send it to the printer. The command line would look something like "PUBPRINT TYPESET.DOC HPLASER" to image your file TYPSET.DOC on an HP LaserJet+. You could build a batch file containing dozens of such lines and let the printer chew on it while you are asleep or at work.

- take a *DEGAS* picture, throw it on the screen, and hold it there for a certain amount of time. The command line would look something like "DEGAVIEW PICTURE.PI2 mm:ss". A string of these could be put into an AUTOEXEC.BAT file that would fire up automatically at boot time. Untrained users could easily run slide shows for sales or other presentations.

- convert *WordPerfect* document files to *St Writer* format and another one to go the other way.

- convert suitable image files from applications programs to DEGAS pictures. This would allow authors of mathematical simulations to get graphic output without having to learn to program for GEM.

It would be great if we had a means of making compiled GFA Basic programs into .TTP applications. This would make it much easier to write simple utility programs. FORTRAN allows this and I'm told it's available in Pascal.

I have a couple of hints for programmers who might want to write applications using the .TTP approach:

Don't try to make your application cover the whole world from soup to nuts. Let each program do a few simple tasks. You can always do complex tasks by stringing simple ones together in a batch file. Remember: KISS - "Keep It Simple, Stupid".

Avoid highly interactive applications. Use the GEM or .TOS form for these. With rare exceptions there is no value in running interactive applications in a batch environment.

Use external parameter files if you want the point and click convenience of desktop installation. These files can hold your option switches and file names.

And finally, make sure that the program is well suited to use in batch files. You have lost most of the benefits of the .TTP approach if the user has to respond to a lot of dumb questions from the keyboard. Give the user a switch to override any pause to view the output screen. What good is batch processing if the user has to keep applying a whip to move the process along?

I also have a couple of "wish list" items for the developers of command line interpreting programs that would let us make better use of programs in .TTP form: give us better ways to control branching and looping; give us ways to supply parameters from the console; and give us more functions for manipulating character strings.

All of the above suggestions are needed to make it easier to write batch files (or "shell scripts") that can be used as menus. Such menu-driven batch files are a very simple way to let novice users interact with their applications rather than with the computer.

I had two reasons for writing this article: First, I wanted to take some of the mystery out of the cryptic "Parameters:" prompt for the ordinary user. Second, I wanted to let our small band of programmers know that they don't have to endure the agony of GEM if they have actual work to do.

I may not have turned all of the .TTP ugly ducklings into swans, but maybe they will look a little better to you from here on out.

A CHEST OF JEWELS - OR A CAN OF WORMS?

The Wonderful World of Public Domain Software

by J. Andrzej Wrotniak

So you just bought an ST, power without the price, and now the days till next payday seem so long - and what is a computer worth without software?

The first day you were happy just playing with the desktop, backing up the Atari ST Language Disk and using the Control Panel to change the screen colors, but this novelty wears off fast. The Atari ST Language disk is of not much use if you do not know programming (and of no use if you do, either); your machine just sits idle on the desk, gathering dust.

Then the next paycheck (or allowance) comes, you run to your friendly neighbourhood Atari dealer (no free advertising, John!), and get yourself *Word Writer* and *Degas Elite* - back in business, but you need more!

And then you learn about public domain programs. Thousands of them are floating around, just for the asking, or for a nominal fee. How comes? Real working programs for free? Come on, this is the U.S. of A., who would give away programs worth anything?

After the initial shock you start digging, downloading, exchanging, and soon you have 328 floppies filled with files; you get lost in what is excellent, what works just fine, and what crashes if there is no Drive B (in color) or no Drive A (monochrome).

Welcome to the wonderful world of public domain software.

Or maybe you have mastered your machine and the art of programming enough to think, that your programs may be useful to the others? Maybe you also want to contribute to this wonderful world? OK, great! But - as is the case with the real world - it is much more enjoyable, if kept unpolluted.

Thus, whether you just use public domain programs, or write them (or both) - read on. There might be something for you here.

Public Domain - Or Just Free?

Strictly speaking, public domain programs are those, to which the author gave up all his rights. Anybody can do anything to those (honorably) orphaned babies.

On the other hand, there are many free programs, which - technically - do not belong to the public domain: the author retains his rights, but explicitly allows for unpaid distribution. Some others belong to so-called shareware: if you like the program, send the author some modest fee (usually $5-$20), so that he will be motivated to improve his program; sometimes you also get in exchange better documentation, or the source code, or the latest version. Fair enough, no obligation, but do it from time to time; it is usually worth it.

Yet another class are the programs published in disk editions of computer magazines. Some of them may be explicitly free; some may be freely distributed only after the issue disappears from the stands. The situation is often foggy here.

Is It Free If I Can Steal It?

Yes and no. Yes: you get a copy for nothing. No, because you are not only harming the people who worked on it, but ultimately also yourself. Less copies are sold; the programmers will choose more profitable occupations, and soon there will be nothing to steal.

This aspect of the "hacker's ethic" was not so harmful in the Sixties, when the hardware was so much more expensive as compared to software, and the latter was usually supplied by the hardware manufacturer. Now the situation is just the opposite. If somebody stole the program I just finished working on (a part of it, of course), my company would be robbed of 40 million dollars and at least 60 people would loose their jobs (there would be some new openings for the lawyers, though).

God, Bad and Ugly

"These programs are not good enough for commercial distribution, but too good for public domain" - here I am quoting (from memory) the sales pitch for OSS's "bareware". Personally, I find this statement as inaccurate as offending to those of us who write for public domain: the "bareware" was rather crude and certainly worse than the top 25 per cent of the public domain programs I have seen.

"Public domain software hurts the software publisher" - another piece of nonsense from another software house. Yes, if the goods you

are trying to sell are lousy, any competition will hurt you (this I have learned on the other side of the Iron Curtain). If your brave computer professionals cannot - after the third revision - make your program work right (at least without crashing), no wonder that I will use a modest (but working!) program by a high-school kid from Colorado or West Germany. Mowing your aunt's lawn hurts the landscaping industry. No names, please, we are not out to offend people - not this time.

There are quite a few very good public domain programs. The most accurate DEC VT100/220 terminal emulation for the ST (for any price) is *Uniterm*, a public domain program by Simon Poole from Switzerland. The *ConTEXT* editor (by Don Milne) for TDI Modula-2 is not ideal, but much better then the TDI's own (and some features are designed even more thoughtfully than in *Tempus*, the best guy in town).

Unfortunately, there are also - many more - programs not worth the download time. Usually they may be classified into one of four groups:

* Those which do not do anything useful, entertaining or educational. The author was so thrilled with being able to put a dialog box on the screen, that he had to share his joy with everybody on CompuServe.

* Those which just do not work right. Sometimes a well-written program undergoes a last-minute, seemingly trivial, modification - so trivial, that the author does not even try it out. (This, unfortunately, happens to the commercial software as well - and much too often!)

* Those which work - often quite powerful and well executed - but do not have a convenient user interface (many of us would not learn 60 mnemonics just to run one utility).

* These which work only as long as you follow one critical path (choose the "Options" button before the "Paths" one, or your disk will be erased without warning, or worse). This reminds some of the more primitive (to avoid more precise terms) adventure games: kill the parrot, put it into the fishbowl, drink the water and say "Gesundheit" - otherwise you will not reach the castle.

The last three categories usually could be significantly improved with just some extra design thought, one more look and not much work. Atari ST has perhaps the largest group of skillful and enthusiastic amateur programmers; why should not we have the best public domain software?

Tips For Programmers

If I am going to share my program with hundreds or thousands of others (which by itself is a very beautiful idea), I should ask myself a couple of questions.

How is my program different from others similar to it and already available in the public domain?

- Does it do more things?
- Whatever it does, does it do it better? Or faster?
- Is it more crashproof?
- Is it easier or more convenient to use?
- Does it at least look better?

An affirmative answer for at least one of these question may mean, that my program should find its place in the public domain. Four such answers would make it a jewel.

What kind of user is my program addressed to? A novice? A bright layman? A weathered hacker?

It would make sense to make it appealing to as wide a spectrum of users as possible. Most of the users waiting for good free copy program do not know (and do not need to) what is a disk sector, offset, FAT etc. It is very nice, if my hyper-duper disk copy program allows for manual adjustment of these factors. On the other hand, the program will be much better, if it also has a "Copy as is" button for those who do nat care about the technicalities: check the original, reformat the destination disk to the same standard, copy. This feature is easy to add, and the program will satisfy more people.

Does the program look nice, does it have a good feel?

These things are subjective, but in the majority of points most of us have similar feelings. Good looks raise the confidence in the result of my efforts (sometimes, alas, the king is naked).

Look: I am sending my program into the wide world with my name signed under it. For people who never heard my name, this program may be the only information they have about me, my skills, taste and personality. Whatever we may say, usually we do care what others think about us. In most cases improving the feel and look of the program does not take much effort (where it does, it may or may not be worth the trouble).

Would my program be so easy to use for others as it is for me?

Usually, it is a good idea to give your program to some of your friends to play with. Their

feedback will be very valuable - if they try to be frank rather than nice. Some of these friends should - preferably - be not very advanced users; their remarks may be most helpful. (Really, I sometimes test my own programs on my 11-year old buddy, Luke, who happens to be the ST expert in his family.)

How would the program behave if the user's input is wrong?

Somebody may click on the "OK" button in the file selector, while no file is selected - would the program handle such cases properly, without crashing and with proper diagnostics?

Unfortunately, many times making the program behave in such situations may take more work than the real functional core of it. Still, usually it is worth the price, as it improves the value of the program very much. Once again, asking friends to use it for some time (as they may have different habits and instincts) may be very helpful. I have one such friend at work: if Babu cannot crash my program, then nobody can.

Is there enough on-screen information to use the program in most cases without resorting to documentation?

A separate Help function is often not necessary; just a few lines of text in the dialog may suffice.

Finally, some kind of documentation is always useful. Many programs may be useless (or almost so) without it. Even if the documenta- tion is not really necessary, a short note stating this fact may be reassuring; the user will know that nothing is missing.

Naming this file READ.ME or so (aaargh!) will be certainly confusing to someone who has more than one program on a floppy - why not the program name with a DOC extension? The same holds for the resource files (why should the program file of DISKEDIT be named SEC.PRG and its resource file - ENYEM.RSC? Any good reason?).

And the last remark: just when I think my program is ready to be uploaded to a bulletin board and shared with the thousands of my Atari co-enthusiasts in the world, I should arm myself in patience and use it for a couple of weeks more: this would give me a chance to catch things which I might have overlooked (and this is always the case!).

Come on, guys! Let us show to everybody, that the ST amateur programmers are the best of the lot! Aren't we?

CURRENT NOTES is available in the Atari stores listed below. If you don't see your local dealer listed and if you think he would benefit by carrying CURRENT NOTES, why not tell him about us or drop us a line and we will be more than happy to contact your dealer. Help us introduce CN to more Atari fans.

ALABAMA
HUNTSVILLE: ABAX DATA SYSTEMS
ALASKA
FAIRBANKS: FAR NORTH ATARI COMPUTER STORE
ARIZONA
PHOENIX: COMPUTER WORKS
ARKANSAS
JACKSONVILLE: COMPUTER PLUS
CALIFORNIA
BELLFLOWER: MID-CITIES COMP/SOFT
CANOGA PARK: PERSONAL COMPUTERS
FULLERTON: CONSUMER ELECTRONIC STORE
LANCASTER: ELECTRONIX EXTRAORDINAIRE
NORTH HOLLYWOOD: LOGICAL CHOICE
ORCUTT: COMPUTER CONNECTION
SAN JOSE: COMPUTER LITERACY BOOKSHOP
SAN JOSE: SAN JOSE COMPUTER
SAN LUIS OBISPO: COMPUTER LOGIC
SAN MARCOS: COMPUTER OUTLET
SANTA CLARA: B&C COMPUTERVISION
SUNNYVALE: COMPUTER LITERACY BKS
THOUSAND OAKS: ATCOM MICRO CENTER
TORRANCE: THE COMPUTER PLACE
COLORADO
AURORA: THE COMPUTER ROOM
CONNECTICUT
FAIRFIELD: COMPUTERS ETC.
HAMDEN: DERRIC ELECTRONICS
DELAWARE
NEWARK: SOFTWARE UNLIMITED
WILMINGTON: THE SOFTWARE CORNER
FLORIDA
FT. LAUDERDALE: THE COMPUTER ROOM
MIAMI: COMPUTER IMAGE
ORLANDO: MCDONALD'S COMPUTER CENTER
WINTER HAVEN: 2004 THE COMPUTER STORE
ILLINOIS
CHICAGO: JAF DATA SYSTEMS
CHICAGO: COZ COMPUTERS
CHICAGO: SOFTWARE PLUS CHICAGO
HANOVER PARK: SOFTWARE PLUS WEST, INC.
PARK RIDGE: CSA LIMITED
PEORIA: MICRO-RAM COMPUTER SYSTEMS
ST. CHARLES: COMPUTER CELLAR
URBANA: ONE STOP SOFTWARE
WHEELING: SOFTWARE PLUS
MAINE
WESTBROOK: HANDS ON COMPUTERS
MARYLAND
BALTIMORE: COMPUTERS COMPLETE
BELTSVILLE: ADVANCED TECH NETWORKS
BETHESDA: THE ELECTRONIC CLINIC
GAITHERSBURG: APPLIED COMPUTER ASSOC
KENSINGTON: THE PROGRAM STORE
SEVERNA PARK: COMPUVISION
SILVER SPRING: CAL COM
TOWSON: HOME COMPUTERS CO.
MASSACHUSETTS
FRAMINGHAM: COMPUCLUB
HADLEY: THE COMPUTER BUG, INC
QUINCY: COMPUTER CACHE
MICHIGAN
EAST DETROIT: RENTERTAINMENT
STERLING HGHTS: SECTOR ONE COMPUTERS
WARREN: RITE WAY COMPUTERS
MINNESOTA
SPRING LAKE PK: USER FRIENDLY COMP
MISSISSIPPI
BILOXI: COAST COMPUTERS
MISSOURI
HAZELWOOD: RANDALL'S HOME COMPUTERS
KANSAS CITY: THE COMPUTER ROOM
NEVADA
SPARKS: COMPUTER HOUSE
NEW JERSEY
N. PLAINFIELD: SOFTWARE SPECTRUM
ROCKAWAY: SOFTWARE STATION
NEW MEXICO
ALBUQUERQUE: PLAZA COMPUTERS
NEW YORK
CORAM: ISLAND SOFTWARE & COMP. SERV.
FAIRPORT: SOFTWARE HOUSE
NEW YORK: LEIGH'S COMPUTER WORLD
NEW YORK: VILLAGE COMPUTER, INC.
NEW YORK: PARK AVENUE VIDEO CENTER
SELDEN: COMPUTER PALACE
SYRACUSE: SOFTWARE CITY
OHIO
COLUMBUS: COMPUTER SUCCESS
COLUMBUS: VIDEO EXPRESS
COLUMBUS: MICRO CENTER
LAKEWOOD: B & G ELECTRONICS, INC.
LORAIN: FUTURETRONICS
PARMA: PEP TV AND COMPUTERS
OKLAHOMA
OKLAHOMA CITY: INFO 1 COMPUTERS
OREGON
PORTLAND: IB COMPUTERS
PENNSYLVANIA
PHILADELPHIA: THE HOME COMPUTER STORE
PITTSBURGH: GAMES UNLIMITED
READING: COMPUTERS & GAMES
RHODE ISLAND
WARWICK: SOFTWARE CONNECTIONS, INC.
TEXAS
DALLAS: COMPUTER DISCOVERIES
EULESS: COMPUTER SKILLS
HOUSTON: COMPUTERS TO GROW
HOUSTON: THE FLOPPY WIZARD
HOUSTON: MEGABYTE PLUS
WEBSTER: MEGABYTE
UTAH
OGDEN: MICRO MANIA
OREM: LLOYDS COMPUTERS
SALT LAKE CTY: SOFTWARE HUT
SALT LAKE CTY: MICRO MANIA
VIRGINIA
ALEXANDRIA: ALONSO BOOK & PERIODICAL
CHANTILLY: APPLIED COMPUTER ASSOCIATES
CHANTILLY: COMPUTER SERVICE LAND
FALLS CHURCH: DISKCOVERY
WOODBRIDGE: L & Y ELECTRONICS
WASHINGTON
BELLEVUE: XANTH

WAACE Adopts Constitution

NOVATARI, AURA, FACE, and MACC representatives met March 16 at Nottoway Park to form an official organization of Washington Area Atari Enthusiasts to promote the diffussion of knowledge of programming and use of Atari computers. The main project to fulfill this purpose is the Atarifest. The representatives will go back to their clubs and vote to be a part of WAACE and elect or appoint their directors to WAACE.

The WAACE chairman, Gary Purinton, is responsible for ATARIFEST'88. Other officers will be elected at the next WAACE meeting, May 25 at Nottoway Park 7:30. Other Washington Area Atari Clubs wishing to become part of WAACE should contact Gary at 703-476-8391. (SMAUG, NCAUG, WACUG, NAUG, LTACE, BEAST, or any others, are you with us?)

ATARIFEST'88 will be held at the Fairfax H.S. October 1 and 2 this year. Vendors will be receiving packets in a month. Don Elmore, 703-444-9053, is in charge of exhibitors. There will be an exhibition hall for Atari computer businesses, demonstration rooms run by the WAACE members for various uses of Atari computers, seminars, and WAACE clubs tables with public domain libraries, memberships, and special services.

Some extra activies will be the dinner Saturday night to reward the chair persons, who worked for more than a half year on the fest. Others may buy tickets for this dinner with a speaker afterwards. There may be some parties also.

Plan to bring the family for the Atarifest weekend. The noncomputer minded members can always sightsee in DC.

WAACE CONSTITUTION

I. NAME - The name of the organization shall be the Washington Area Atari Computer Enthusiasts, abbreviated as WAACE.

II. PURPOSE - To promote the diffussion of knowledge on subjects such as programming, logic, artistic, and linguistic skills using Atari computers and related software and hardware products.

III. MEMBERSHIP - Membership is open to Atari User Groups meeting the following criteria.

III.A. Membership - Each group shall maintain a roster of dues-paying members who are eligible for benefits as members of WAACE.

III.B. Activity - Each member group shall demonstrate an active level of committment to the purposes outlined in Article II through sponsorship of such activities as regular monthly meetings, educational programs, or publications.

III.C. Not-For-Profit - Only user groups operated as self-supporting, not-for-profit entities are eligible for WAACE membership. Groups whose expenses are defrayed in substantial part by for-profit organizations are not eligible for membership.

III.D. Location - WAACE member clubs must be located within an area encompassed by Virginia, District of Columbia, and Maryland.

IV. ASSESSMENTS - The operation of WAACE shall be funded by levying assessments on each member group in direct proportion to the average membership of the group over the most recent 12 month period preceding the date of assessment.

V. BOARD OF DIRECTORS - The responsibility for the operations of WAACE shall be vested in the Board of Directors.

V.A. Election of Directors - Each club shall be represented by a number of directors as given by Table I. Each director representing a club shall be a member in good standing of that club during his entire term as a director of WAACE.

TABLE I - WAACE Directorships
as a function of Club membership

Club membership	Directors
10-50	1
51-200	2
201-300	3
301-400	4
401-500	5
501-or more	6

V.B. Officers - The WAACE Board of Directors shall elect one of their number to hold each of the following positions: Chairman, Vice-chairman, Secretary, Treasurer.

NOVATARI

Northern Virginia Atari Users' Group

President.....	G.Weatherhead.....	703-938-4829
VP-ST.....	Ian Charters.....	703-845-7578
VP-8BIT.....	Alan Friedman.....	703-425-0575
Treasurer.....	Curt Sandler.....	703-734-9533
Secretary.....	Edmund Bedsworth..	
Membership.....	Earl Lilley.....	703-281-9017
Prg. Chr. XL/XE	Randy Ingalsbe....	703-644-0159
	Nina Kraucunas....	703-250-3572
Prg. Chr. ST...	Jim Stevenson.....	
	Duane Shie.....	703-430-9693
Telecom SIG....	Ed Seward.....	703-573-3044
MSDOS SIG.....	Mike Gibbons.....	703-440-0379
SYSOP-ARMUDIC..	Ted Bell.....	703-455-5312
SYSOP-WAACE....	Ed Seward.....	703-573-3044
LIBRARY-8-BIT..	Roy Brooks.....	703-750-0146
MAIL...	Al Friedman.....	703-425-0575
LIBRARY-ST.....	Bob Bell.....	301-593-0889
.....	Glen Bernstein....	703-455-6053
HOTLINE.....	Andrea Bonham.....	703-534-3503
ATARIFEST'88...	Gary Purinton.....	703-476-8391

ARMUDIC BBS (XL/XE).....	703-569-8305
WAACE BBS (ST).....	703-280-9072

New Members: Dues are $20/year/family which includes a subscription to *CURRENT NOTES* and access to more activities. Join at the main meeting or at a chapter meeting or by sending $20, payable to NOVATARI, to Earl Lilley, 821 Ninovan Rd.SE, Vienna, VA 22180.

Novatari Main meeting meets the second Sunday of the month at the Washington Gas Light Building, 6801 Industrial RD, Springfield, VA. Take 495 to east on Braddock Rd. (620) to south on Backlick Rd.(617). Left on Industrial Rd. Washington GasLight is the second building on the right. 5:30 Telecom SIG; 6:15 announcements, open forum, door prizes; 6:45 VAST and 8BIT SIG meetings.
M.Vernon/Hybla Valley,1st Thursday, 7:30 Contact Ron Peters at 780-0963.
Sterling, Sterling Library, 7:30-9:30, 1st Wed. Contact Milo Flagel at 471-5273.
Mt. Vernon / Hybla Valley, 1st Thursday, 7:30. Contact Ron Peters at 780-0963.

BBS': Access to the BBS' requires a fee in addition to the dues. This fee is $5/year for NOVATARI members and $7.50 for members of other groups. BBS access fees are to be made payable to "NOVATARI" and sent to: Ed Seward, PO Box 541, Vienna, VA 22180. Please specify which BBS you wish to use.

President's Notes. The members all pulled together for a fine program in March in spite of being so close in one auditorium. Gary wired Ed for sound and with the overhead projector we were able to hear and see what was happening on the computer as Ed took us through the steps of going online with the WAACE BBS. Even the oldtimers picked up some new commands.

Frank Chan dropped by the board meeting on his spring break from VA.TECH. Another UG was born at their Computer Show. They rejected A-BUG, BATHIUG, and FIRST BACE. Their name is now BEAST, Blacksburg Enthusiasts of Atari ST.

U.of VA is not to be out done. A visitor at our last meeting asked how to get started with a group there. Sorry I did not have time to really go into it at the meeting. Call some time if you need more help, U.of VA.

The big news is the organizational meeting of ATARIFEST'88 and an official WAACE with constitution. WAACE was originally a *CURRENT NOTES* designation of clubs that used *CURRENT NOTES* as a newsletter. Later it became the name of the ST BBS. When Novatari asked the clubs to participate in our fairs, they asked that it not be called the NovatariFest, and so it became the WAACE Atarifest to give each UG equal billing. Read the WAACE report above.

Both SIGs have obtained some spectacular door prizes, but I want to see some spectacular random number generators for both the 8-BIT and ST. Programmers will be rewarded with a small prize for an entertaining number selector that can be put in our public domain libraries. There should be a way to place the number of participants in the program and then an interesting display of bells, whistles, and graphics before the winning random number appears. Submit your program to me, the sooner, the better.

COMING EVENTS: Main meeting April 10. Note May meeting is third week May 15. May board meeting May 4th.

SYSOP's News, by Ed Seward. For those of you that may not be aware of it the WAACE BBS is now running with a 70 MEG hard-disk with more storage to be added in the near future. ARMUDIC (the 8-bit BBS) has also been recently upgraded to include a 2400 baud modem and a 100 MEG hard-disk.

Since the WAACE ST BBS is approaching it's second birthday it was decided that a gift would be given to the 20,000th caller. I have posted the requirements for the awarding of the gift on the WAACE BBS so as to assure
everyone of the winner actually being chosen at random. (Rather than caller #19990 or higher calling back frequently so as to win the prize!)

Library Bulletin, by Roy Brooks. We are always looking for help and suggestions about what would be good to have in the library. Please write or call me with your input. This month we added two Demo disks #8 Hitchhiker's Guide to the Galaxy by

James Stevenson and #8 Wizard of Oz. Hitchhiker is an illustrated computer book that outlines the astronomy and characters from Douglas Adams book and Infocom's game of the same title. The disk is very well done with humorous text and exquisite pictures. The Oz disk is a collection of Computer Eyes images both in graphics 7.5 side A and GR 9 side B.

The Utility #32 disk is the Weekly Scheduler by Jan Smith. Both Hitchhiker and Weekly Scheduler used to be in NEX Novatari Program Exchange. We a very grateful that many of the NEX titles have been allowed to be placed in our library. One other disk that was added is Telecom #7 DATA COMM. I have collected with the help of Mike Pollak of NCAUG many communications programs that will arc, compact, scrunch, shrink, diskcom, mash, crush or undo said compactions so you can telecommunicate more effeciently.

A.U.R.A.
Atari Users Regional Association

President.....	Steven Rudolph....	301-464-0835
8-bit VP.....	Bob Langsdale.....	301-390-6554
16-bit VP.....	James Bonbright,Jr	301-933-4891
Treasurer.....	Bob Brock.....	301-268-2554
Membership.....	Dave van Allen....	301-593-4654
8-bit Libr.....	Wayne Heiden.....	301-330-0130
16-bit Libr....	Herb Lane.....	202-332-3618
Equipment.....	Jesse Ayer.....	301-345-1592
Facilities.....	Richard Stoll.....	301-946-8435
Used Equip.....	Lincoln Hallen....	301-460-5060

Meetings - Next meeting is May 19th in the Temple Isreal Social Hall (420 University Blvd. E., Silver Spring). Library sales begin at 7:00, the meeting begins at 7:30. May's theme is telecommunications with separate XL and ST demonstrations. There will be 8-bit and 16-bit door prizes.

Correspondence. All correspondence, including membership renewals, changes of address, etc. should be sent to: AURA, P. O. Box 7761, Silver Spring, MD 20910. AURA cannot guarantee *CURRENT NOTES* subscription fulfillment unless the member provides written confirmation of address changes, renewals, etc. to the address given above.

New Members. Dues are $20/year and include subscription to *CURRENT NOTES*. Send name, address, phone number, and check to above address.

President's Report - This month's theme was tax and personal finance applications. Bob Brock demonstrated a tax template for a spreadsheet on the 130XL. John Barnes gave a talk to the 16-bit members on the *PHASAR* package and how it can keep track of your taxes and then some. Linc Hallan demonstrated one of the new additions to our PD disk library. This is part of our program to show the membership what our library has to offer.

Herb Lane and Bill Schadt gave us a first look at the new ST Disk Library Data Base. They have put together a listing of all the file names on all of our PD disks and printed them out in alphabetical order along with the disk that contains each. Now, for example, we can look up all files beginning with DEGAS to find which disks contains DEGAS fonts and utilities. They have the data base running on a UNIX system as it is much too big to run effectively on the ST.

We gave away door prizes for the first time in a long time and this was very well received (especially by the winners). So there will be door prizes at all future meetings,. We also announced an AURA Logo graphics design contest. Prizes will be awarded to the winners on both the 8-bit and 16-bit sides.

Other topics of discussion included our relationship with WAACWE and the upcoming AtariFest, and group purchases of blank disks and other supplies.

Attendance and interest were much higher than last month as were disk sales. If any members haven't attended for awhile, come to the next meeting and see the difference (yopu may win a door prize).

N.C.A.U.G.
National Capital Atari Users' Group

President.....	Peter Kilcullen..	202-296-5700
Vice President.	Mike Pollak.....	703-768-7669
Treasurer.....	Allen H. Lerman..	301-460-0289
XL/XE Librarian	Mike Pollak.....	703-768-7669
ST Librarian...	Enrique Seale....	202-295-0112

MEETINGS: 3rd Tuesday, 5:30 - 8:30 pm, room 543, National Science Foundation offices, 1800 G St., NW, Washington, DC. Closest subway stop is Farragut West on the Blue and Orange lines. Building is identified by sign for Madison National Bank on the corner. Front entrance is on west side of 18th between F and G.

NEW MEMBERS: Membership dues are $20 and include a subscription to *CURRENT NOTES*. Join at the meeting or send check, payable to NCAUG, to Allen Lerman, 14905 Waterway Dr, Rockville, MD 20853.

W.A.C.U.G.
Woodbridge Atari Computer Users' Group

President.....	Lou Praino.....	703-221-8193
First VP.....	Arnie Turk.....	703-670-2547
8-Bit VP.....	Darrell Stiles...	703-494-9819
8-Bit Board Rep..	Stan Rupert.....	703-670-3338
ST VP.....	Bill Parker.....	703-680-3941
ST Board Rep.....	Bill Brooks.....	703-895-5404

Treasurer..... Chris Moore..... 703-670-5143
Secretary..... Frank Bassett.... 703-670-8780
Librarian..... Mike Stringer.... 703-791-3331
Past President... Jack Holtzhauer.. 703-670-6475

MEETINGS: 7-10PM, Community Room, Potomac Branch, Prince William County Library, Opitz Blvd., Woodbridge, VA. Entering Woodbridge from either North or South on Route 1, proceed to the intersection of Route 1 and Opitz Blvd. (opposite Woodbridge Lincoln-Mercury). Turn West on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building. Meeting Dates: Feb. 9, Mar. 8, Apr. 19, May 10, June 13.

NEW MEMBERS: Initial membership fee is $10/yr plus $1 monthly dues. Membership includes a subscription to *CURRENT NOTES*. Join at meeting or send check, payable to WACUG, to Frank W. Bassett, 15313 Blacksmith Terr, Woodbridge, VA 22191.

S.M.A.U.G.

Southern Maryland Atari Users' Group

President..... Thomas Crosby.... 301-843-1310
Sec/Disk Lib..... John J. Smith.... 301-862-9490
Treasurer..... Samuel Schrinar.. 301-843-7916
Newsletter Ed.... Leroy Olson..... 301-743-2200

MEETINGS: 2nd Thursday, 7:30 pm, John Hanson Middle School in Waldorf, MD. Traveling thru Waldorf either east or west on Rt 5, exit on Vivian Adams located 200 ft west of Waldorf Carpets & Draperies and directly across from the Village Square sign.

NEW MEMBERS: Membership dues are $20 and include a subscription to *CURRENT NOTES*. Join at the meeting or send check, payable to SMAUG, to Sam Schrinar, 2032 Alehouse Court, Waldorf, MD 20601.

F.A.C.E.

Frederick Atari Computer Enthusiasts

President..... John Maschmeier.. 301-271-2470
Vice President... Mike Kerwin..... 301-845-4477
Treasurer..... Buddy Smallwood.. 717-485-4714
Librarian..... Jason Harmon..... 301-663-1176
Secretary..... Bill Mentzer..... 717-762-7281
SYSOP..... 301-831-9092
Bulletin Board..... 301-865-5569

MEETINGS: 4th Tuesday, 7 - 9:30 pm, Walkersville HS, MD Route 194, 1 mile north of MD Route 26 (Liberty Road).

NEW MEMBERS: Dues are $25/year/family and include a subscription to *CURRENT NOTES*. Join at meeting or send check, payable to FACE, to Buddy Smallwood, PO Box 2026, Frederick, MD 21701.

WAACE HOT LIST

Need some help? Try our HOT LIST volunteers. Volunteer your own services to help out other Atarians. Call Andrea Bonham (703) 534-3503 to add your name to the list.

DISK DRIVES

PERCOM.....	Greg Black.....	703-938-0748
	Gary Purinton.....	703-476-8391
	Cliff Trump.....	703-323-7184
1050.....	Ron Peters.....	703-780-0963
INDUS.....	Greg Black.....	703-938-0748
ASTRA.....	David Lankford....	703-938-6743
TRAK.....	Roger Morihand....	703-630-9151

PRINTERS

ATARI 1027.....	Bruce Cameron.....	703-998-6525
ATARI 1020.....	Lee GIvens.....	301-871-5417
ATARI 825.....	Frank Budelman....	703-750-0079
(graphics)....	Dan Chun.....	415-471-9286
CITIZEN 120D...	David Meyers.....	703-455-7145
EPSON.....	Dick Knisely.....	703-476-0529
MANNESMAN-TALLY	Duke Wheeler.....	703-281-6653
	Gary Purinton.....	703-476-8391
	Cliff Trump.....	703-323-7185
OKIDATA 92.....	Roland Gabeler....	703-620-9142
PANASONIC.....	Dennis McCormick..	703-430-9552
	Terry White.....	301-933-5349
	Jim Parks.....	703-533-1754
PROWRITER.....	Greg Black.....	703-938-0748
	Ron Peters.....	703-780-0963
	Rick Frick.....	703-573-1382
SMITH CORONA...	Richard Fichter.Jr	703-378-7023
TPI.....	David Lankford....	703-378-4093
GEMINI 10X.....	Jim Stevenson.....	703-378-4093
	Dick Caldwell.....	703-356-4248

520 ST

	Alice Barney.....	703-978-9376
	Barry Burke.....	703-830-1978
	Ken Whitesell.....	301-636-4756

LANGUAGES

ASSEMBLY(6502).	Charles Pearson...	703-437-1199
ASSEMBLY(68000)	Ken Whitesell.....	301-636-4756
ACTION!.....	Richard Fichter Jr	703-378-7023
	Jim Stevenson.....	703-378-4093
ATARI BASIC....	Don Tucker.....	301-229-5379
ST BASIC/LOGO..	Alice Barney.....	703-978-9376
GFA BASIC.....	Terry White.....	301-933-5349
OSS BASIC XE...	Mathew Spolin.....	301-656-5673
C.....	Ken Whitesell.....	301-636-4756
FORTH.....	Clarence Connelly.	703-437-6353
	Roger Morihand....	703-430-9151
LOGO.....	Georgia Weatherhead	703-938-4829
PASCAL.....	Allen Clarke.....	703-250-4469
	Al Friedman.....	703-425-0575
PASCAL OSS.....	Ed Seward.....	703-573-3044

TELECOMMUNICATIONS

1030.....	Allen Eckert.....	703-573-3543
PROMODEM.....	Joe DiBeneditto...	703-323-0120
MPP.....	David Lankford....	703-938-6743
	Dick Caldwell.....	703-356-4248
	Jim Parks.....	703-533-1754
HAYES SMART....	Richard Fichter Jr	703-378-7023
	Gary Purinton.....	703-476-8391
HAYES 2400.....	Mathew Spolin.....	301-656-5673
HOMETERM.....	Scott Trump.....	703-323-7184
	David Lankford....	703-938-6743
EXPRESS! 850...	Gary Purinton.....	703-476-8391
FLASH.....	Ed Seward.....	703-573-3044

WORD PROCESSORS

ATARI WRITER...	David Lankford....	703-938-6743
	Jim Stevenson.....	703-378-4093
ATARI WRITER+..	Ron Peters.....	703-780-0963
BANKSTREET WRTR	Adair McConnell...	703-938-3525
PAPERCLIP.....	Mike Feezer.....	703-562-1142
TEXT WIZARD....	Dick Knisely.....	703-476-0529
	Clarence Connelly.	703-437-6353
LETTER PERFECT.	Dean Miller.....	703-560-3533
	Nora Bolton.....	703-476-9690
	Steve Steinberg...	703-435-2962
	Rick Reaser.....	703-644-0578
ST WRITER.....	Alice Barney.....	703-978-9376
SPEEDSCRIPT 3.0	Karl Baker.....	812-232-0521
	Ron Kyle.....	812-466-5427
1ST XLENT WP...	Georgia Weatherhead	703-938-4829
FIRST WORD.....	Joe Kuffner.....	703-759-2507
WORD WRITER....	Terry White.....	301-933-5349

SPREAD SHEETS

VISICALC.....	Norma Bolton.....	703-476-9690
SYNCALC.....	Dick Knisely.....	703-476-0529
	Don Tucker.....	301-229-5379
	Bob Waterfield....	301-840-0795
SYNTREND.....	Bob Waterfield....	301-840-0795
HOME ACCOUNTANT	Joe DiBeneditto...	703-323-0120
VIP PROFESS....	Ken Whitesell.....	301-636-4756

DATA BASES

SYNFILE.....	Bob Waterfield....	301-840-0795
DATA PERFECT...	Gary Purinton.....	703-476-8391
	Don Tucker.....	301-229-5379
	Dean Miller.....	703-560-3533
MEGAFILER.....	Rick Reaser.....	703-644-0578
FILE MANAGER...	Scott Trump.....	703-323-7184

ADD ONS

POWER PADS.....	Dick Knisely.....	703-476-0529
KOALA PADS.....	Jim Stevenson Jr..	703-378-4093

DISK OPERATING SYSTEMS

DOS 2.....	Dick Caldwell.....	703-356-4248
DOS 2.5.....	Mathew Spolin.....	301-656-5673
TOP DOS.....	Bud Stolker.....	703-370-2242
SMART DOS.....	Lee Givins.....	301-871-5417
SPARTA DOS.....	Mike Trubow.....	301-757-2954
DOS XL.....	Terry White.....	301-933-5349

MUSIC

ATARI MUSIC COM	Steve Steinberg...	703-435-2962
MUSIC CONS. SET	Steve Steinberg...	703-435-2962
	Dick Knisely.....	703-476-0329
ADV MUSIC SYS..	Steve Steinberg...	703-435-2962
BANK STREET MUS	Steve Steinberg...	703-435-2962
MIDI.....	Mike Lehr.....	703-931-9447
	Terry White.....	301-933-5349

OTHER

RAMBOARDS.....	Gary Purinton.....	703-476-8391
CHIPS (65C02)..	Bruce Blake.....	301-599-8888

Current Notes ST Library

These disks contain Mac programs in "Magic" format for use with the MAGIC SAC Macintosh emulator cartridge.

M0: MAGIC SAC. Version 4.52, (or the most recent ver) of MAGIC program.

M2: TELECOM DISK No.1. BinHex 5.0, Free Term 1.8, FreeTerm.Doc, Kermit, PackIt III (V1.3), StuffIt 1.0, TermWorks 1.3.

M3: UTILITY DISK No.1. DES, Font Doubler, MacDump, Mini Finder, PackIt III (V1.3), Reverse Screen 1.0b1, RMover, Scan, Set File. SLICER. Version Reader 1.1, Write Stream.

M4: GAME DISK No.1. Backgammon, Bash Big Blue, Curves, MacLuff, MacYahtezee, Maze 3D, Meltdown, Missile Command, Munch, PepsiCas, Smile, Snow, Solitaire, Space Bubbles, Vax Runner II.

M5: DISK LIBRARIAN. Disk Librarian V1.82A. Disk Librarian Doc, Short Doc. Contains listing of CN MAGIC LIBRARY.

M6: GAME DISK No.2. Ashes, Black Box, Destroyer, HexPuzzle, Killer Kalah, MacPoly Demo, Office Attack, Point Symmetry Demo, Snake, Solitaire, Trophy List, Wall Game, Wheel.

M7: GAME DISK No.3. Ashes, Break the Bricks, Deep Ennui, Go, Mac Gunner, MacBugs, MacCommand, MacYahtzee, Wiz Fire 1.1

M8: DESK ACC No.1. 3DTTT Game, Art Thief, Ascii, Bagels Game, Big Ben, Calculator, CopyFile, DA Tester 1.5, Delete File, Desk Acc. Tester, DeskZap 1.2, Eject&Reset, Extras, File Hacker DA, File Tools, Font Grapper+, Font Grapper3, Hex Calculator, HP 12c, MemScan, MemWindow, MerriMac BlackJack, miniWriter, MockTerminal, MockWrite, Moire, MW Count, Other 3.0, Puzzle, Reader, Rubik's Cube, Sampler, Scrapbook, Scientific Calculator, SetFile 3.3, SkipFinder, TheBox, Tiler 1.5, Trails, Transfer, TrapList, Utils, Word Count, Zoom Idle.

M9: UTILITY DISK No.2. Bind Icons, Change Appl. Font, Convert Desk Acc., Desk Accessory Mover, File Hacker, FontDoubler, Index, MakeScreen, MicroFinder, PurgeIcons, RamAStart 1.3, REdit, ResEd, SelectPaint, Show Version, User Interface Demo.

10: GRAPHICS DISK No.1. Amy, Artisto, ball demo, Big Ben, Brooke, Bugs, Curves, Display Message, Dragon, Fighting 51, Fourth Dimension, GARF, HotSexI, Liar's Club, Living Art, Max Headroom, Moire 3.0, Nightmare, Optical Illusion, Paint Grabber, Painter's Helper #1, Pattern*, Pisces, Rotations, Saddle, The Fourth Docs, ViewPaint 1.5.

M11: PRINT UTILITIES. Coventry-12, Disk Labeler, Fast Eddie, Font Mover, Ink, MacWrite 4.5 to Text, miniWriter, MockWrite, Pica-10, ReadMac-Write, Walla Walla-9.

M12: MACBILLBOARD. Chipmunks, Donald & daisy, Goofy At Bat, Announcement, Babe Ruth, Carrotprint, Classic illusions, Escher, Escher Hands, MacBILLBOARD (MacPaint clone), Max, Mickey and Minney, mm, Quick Tour, T-Shirt.

M13: FONT DISK No.1. Akashi, AlgBlurb, Algebra, Athens, Boxie, Dover, Geneva, Hood River, ImageWriter, LED, London, Los Angeles, Luxor, Mars, Monaco, Park Ave, Pica, Ravenna, Rome, Runes, San Francisco, Seattle, Steel Brush, Ultra Bodoni.

M14: FONT DISK No.2. Bookman, Courier, Coventry, Dali, Genevaa, Hebrew, Manteco, Shadow Box, Sri Lanka, Times, Walla Walla, and font display 4.6 w/docs.

M15: GAME DISK No.4. Alice, Amps 3.0(B2), Bricks, Canfield 2.0, Iago, Lets Get TankedI, MacHeads, Nim, Space Attack, 3rd Dimension.

M16: FONT DISK No.3. About Lachine, Alice, Avante Garde, Berkeley, Broadway, Camelot, Cartoon, Centura, Chancery, Eon, Exeter, Fallingwater, Fantaste Key, Fantastel, Future, Ham, Helvitica, Hollywood, Lachine, Lineal, Madrid, Pittsubrg, San Quentin, Silicon Valley, Stencil, Unicol plus DAFont2.da and SysFonts.da.

M17: DUNGEONS OF DOOM 4.0. Graphic adventure game.

M18: DESK ACC No.2. About Popup.txt, Alarm clock, Art Grapper+, Calculator+, Choose Scrapbook+, DA File, DA Tester 1.5, Disk Labeler, DiskInfo 1.45 + SICNs, Explorer, Gone Fishin', Hex Calc, Label Maker, MemWindow, MiniWRITER 1.34, Multi-Scrapbook, MW 4.5 Counter.DA, Popup 1.0, ProCount, ReadiPrinter, Ruler, SFstartup 1.0, Skipfinder 6.1, Sleep, Stars 1.6, Stars II, Sysfonts, TeaTime, Timer.

M19: PINBALL CONSTRUCTION SET GAMES. Pinball Construction Set Player plus 12 Games: Apple, Black Hole, Face, KalinBall, Madonna, Minute-Mag, Patchwork Mess, Phantom, Pure-Gemme, Samurai, The Royal Pain, Wizards Lair.

M20: GAME DISK No.5. Chase'Em, Crystal Raider, Daleks, Golf MacWay, Kill File, Kill, King, King.MacWrite, On-The-Contrary, StuntCopter1.2.

M21: GAME DISK No.6. Guess, Hacker's Contest, Hot Air Balloon, Match, Ramm1.0, Third Dimension, Trick-Track, Utaan Attack, Zero Gravity.

M22: GRAPHICS DISK No.2. BlowUp 3.0, BlowUp Notes, CalendarMaker 2.2.1, Dynamo, Graphic, MadMenus, Math21, Rays, Simutree, Spiro, Tree, Vanlandingham.

M23: VAMPIRE CASTLE. Graphic adventure game.

M24: DEEP ANGST. Graphic adventure game. 1 Mb ST only.

M25: GAME DISK No.7. Billiards, Cross Master Demo, Flash Cards, Hangman-9.0, MacLuff, Master Guess, Safari 1.0, Venn.

M26: GRAPHICS DISK No.3. 3D Sketch, AniRama, Bin/Graphics, Brownian Motion, Control, Fractal Contours, Fractals, Icon Collector, Julia, MakePaint, Melting Clock, Small View, ShapeArt, StarFlight, Window Demo.

M27: UTILITY DISK No.3. Browse/ShazamI, Clocks: analog & digital, Edit, FEdit 3.0, launch, lazymenu, Magic Beep 1.0, Menu Editor, microFinder, Quick Dir, Quick Print, RamStart2.0+, Road Atlas, ShrinkToFit, SicnEdit, SortMenu, SortMenu Code, SuperFinder4.0, TabsOut, Unpit, WayStation.

M28: RED RYDER 7.0. Red Ryder 7.0, Red's 7.0 Stuff, RR7.0 Macros, RR Docs.

M29: PCS PLAYER No.2. Pinball Construction Set Player plus Games: Circus Circus, D &D , Diadora, Max, Merlin, Modern Mistress, Queston, The Royal Pain, Twilight Zone, Whazit.

M30: GAME DISK No.8. Bowl-A-Rama, MacTrek 1.1, Mystery Box 1.0, Shots, Star Trek Trivia Quiz, Window Blaster 1.0.

M31: BLACK WIZARD. Graphic adventure game by Richard Loggins.

M32: FONT DISK No.4. Canberra, Chicago, Humanistic, Music, New Dali, Palencia Application, Palo Alto, Pioneer Shadow plus F/DA sorter and Font Tester.

M33: CLIP ART No.1. AirCraft, Business, Car Logos, Cars & Trucks, Clip Art Demo, Disney, Eyeballs, Flowers, Misc, Seasons, Trees1, Trees2, ViewPaint 1.5.

M34: GAME DISK No.9. 1000 Miles, Asteroids, Cairo ShootOutI, Donkey Doo, Duck Hunt, Pente 1.0.

M35: FONT DISK No.5. Beehive, Beverly Hills, Boise, Chicago, Courier, DeStijl, Ham, Happy Canyon, Helvitica, Mod. Chicago, Old English, Square Serrif, Sri Lanka, Worksheet.

M36: CASTLE OF ERT. Shareware graphic adventure game.

M37: MAC-A-MUG PRO DEMO. Version 1.0, Create your own mug shots by combining a variety of different facial features.

M38: VIDEO WORKS PLAYER #1. PD player for Video works animated screens. Includes 11 movies.

M39: DEMO DISK #2. Demos of Anatomiser (learn human anatomy), DeskPaint (desk acc MacPaint clone), and SuperPaint (graphic program with both MacPaint and MacDraw features).

M40: HACK, Version 1.03. Game is similar to Rogue, includes manual with full docs.

M41: RADICAL CASTLE. Graphic/text adventure game.

M42: FONT DISK No.6. 15 new fonts: Berlin, Boston II, Courier, Dorza, Highwood, MicroBoston, MiniBoston, New York, Palo Alto, Sparta, Stiletto, Symbol, Tatooine, Venice, Wartburg.

M43: UTILITIES No.4. DiskDup+, MacSnoop 1.03, RamDisk+ 1.4, ResTools 2.01, Oasis 2.01 (HFS), Font Librarian (HFS), Switch.

M44: FONT DISK No.7. 18 new fonts: 42nd Street, Aldous, Art Deco, Ascii, Blockbuster, Border, Clairvaux with docs, Coptic, Deep Box, Ivy League, Klingon, Las Vagas, Little Box, Madrid, Memphis, Minneapolis, Rivendell, Spokane.

M45: GAME DISK No.10. Blackjack 4, Gunshy 1.0, Humpback, New Social Climber, Panic, Puzzle 1.0, Star Trek Trivia Quiz, Video Poker.

M46: DA DISK No. 2. 35 DAs: 3D Tic-Tac-Toe, A-Bus ID Poker, Abacus, Calendar, CheapPaint, Collapse, ConCode, Crabs2, DAFile, DAFont, Disp.Msg, Double Apple, Executive Decision, FatMouse, FixPic2.0, Flow, Fun House, Func Keys, Font, Idle, KeyMouse, KnockOut, Multi-Scrap, MW to Text, New MiniDos, Orig Clock, PaintDA, Poker, ProCount, Ruler, Tiler1.5, Timelogger2.11, Utilities, Wrap, WXModem, Sample It.

M47: GRAPHICS No. 4. Cursor Designer, Earthplot3.0, Graphics2.0, Mondrian1.0, MotionMaker2.0, Moving Finger, Wallpaper, Zoomation.

Order from Current Notes Library, 122 N. Johnson Rd., Sterling, VA 22170. $4/disk plus $1/(6 disks) for shipping.

Current Notes ST Library

#18: UTILITY NO.1. anaclock, breakout, deskcalc, dlgclock, puzzle, ram, ramacc, bicalc2,calc,calca2, noverify, dblboot, copydisk, sectedit, dump, squeeze, unsqueeze, format, mushro, stdio, title.bas, labels, print, spool, printdir, degcol, effects, neocon, slide, omaker, smaker, windows, timeda.

#25: DEGAS UTILITY. prgs to Convert DEGAS->NEOCHROME, Koalapad->DEGAS, tinyview, tinystuff, 20 fonts (archai, gramma, stencl, graph, classl, kungfu, thinte, graphics, cursiv, olde, woodcu, normal, daisyw, oldeng, ascii, sys, double, rally, comnputer, system), printer drivers (cgp220, ctl300, epson3, jx80c, min193, ml93, necp3b, necp3c, ok120c, pj1080).

#30: UTILITY NO.2. Assembler); cpp22 (a command processor); rcv2 and dcopy (disk copiers); Forth-83; printdir and timedate; Labels; Pallet (set display colors); Picswitch (convert pics from other computers); Squnsq; Volume (change vol. name of a disk).

#36: DESK ACCESSORIES. TI-59 calc, calendar, digl clocks, ramdisks, free ram, screen snapshot, sector ed, bkground colors, games, ST Tips.

#59: VIP TEMPLATES. 20 VIP templates, some simple, some quite sophistcated: acpay, acrec, blackbk, ckbkbal, dispurse, fedtax85, ledger, lotusinv, magee, menu, mistox, payroll, spi, spi2, tryme, z, zlife, zrelease, starter

#61: PRINTER DRIVERS. First Word (ascii, bro10p, bro12pt, bro15pt, bro_hr15, epfx80, esfx80, epslx80, lq800, okl92, okl192, pan109, prortr, pr1215, 1stnx10, 1stsg10), ST Writer (vers.<1.5: gemini, legend, panas; vers>1.5: epsmx80, geminl10, nec- 8023a, pan1091); Degas (panson, cgp220, ctl300, epson3, jx80c, ml193, ml84, ml93, necp3b, necp3c, okl20b, oki20c, pj1080, prowtr, sg10). Star and Gemini fonts (computer, cut, freench1, olde, outline, russ1, smooth, stylish).

#63: UTILITY NO. 3. WP desk acc (word400), floppy disk indexer (fdi), file squeezer & unsqueezer, pic conv & comp utilities (dega2colr, dega2neo, koadeg, neo2dega, tinyview, tinystuff, tiny docs, picsw6); ramdisk copy prg (ultcopy); library prgs (backup, contents, frmtutil, fdl); timedate.acc; spool33k, sector editor.

#72: UTILITY NO.4. Format & copy 400K and 800K; library & delibrar; make512 & makelmeg; Fn Key Labels; muscnvrt; desk ACC(cli, fastram, fortune, prints, deskman); fileprint; proff; print hi-res on color system

#73: UTILITY NO.5. archiver; Copy files to ramdisk; ramdisk acc; disk library prgs; disk speed checker; encrypt; title page printer; V2 of desk acc wp; convert Megamax H files to Personal Pascal i files; calc prg.

#81: UTILITY NO.6. VER 3 of word400; address Book prg; change drive icons to diskettes; directory lister; quick I/O formatter; fast ramdisk; Font Editor; disk directory lister; hard disk backup; fix xmodem downloads; search disk directory; send setup comands to Epson printers; test RAM.

#94: UTILITY NO.7. Make clipboard accessories; analyze dBMAN command files; print out strips of picture files; banner, marque, blast (fast display of Plx & NEO files), Mac to Atari, PICDEX - Tiny prints.

#95: UTILITY NO.8. formatter (allows 9 - 10 secotrs per track, 80 - 82 sectors per disk side, fast or normal read), convert Degas fonts to Degas Elite, Elec. circuits for Easy Draw.

#102: UTILITY NO.9. Early version of Apple II emulator, bulk erase, disk directory printer, disassemble, ramdisks (eternal, yard), disk format acc., ram disk loader, disk labels printing program, monitor st (debugging tool).

#103: SKYMAP. (mono) 1,560 of the brightest stars. Display map of stars, find a particular star, or identify a particular star.

#107: ST RAM DISKS. A must have disk! 25 Ramdisks and 7 Auto Loaders (fdcopier, intramdk, loadram, eternal, yard, ultcopy, fastramd, autoramd, mike5, ...much more)

#113: UTILITY NO.10. TURTLE hard disk backup utility; PROGCALC a programmable calculator in medium rez; UNDELETER the BEST undeleter commercial or PD; FORMAT3; Alan Pages' VIDCOL.PRG to convert DEGAS Elite files to ASCII simulations of Vidtex for viewing by Flash.

#117: ST DESK ACCESSORIES NO. 2. Acc load, eternal, format acc, index, kalkiock, mobzdil2, new word, startup1.1.

#121: UTILITY No. 11. address book, text browser, arxx, format.gem, gem font editor, font loading acc, start1.1

#126: PUBLISHING PARTNER UTILITIES. Helvetic and Normal fonts with 18 various printer drivers including Epson, Gemini, Bluechip, Okidata, T321F, SB10F, LQ800F, SMM804, C8510A.

#127: ST Font Editors/ Loaders. Font Loader (High-res only), Gem Font Editor, Ver 1.11, and FED Font Editor.

#131: UTILITY NO.12. Programmer's Utility disk: uudecode, uuencode, bucket, kill, scach, make(w/C source & docs), setInit (display and choose files from auto folder), verify, volume (change vol.name of disk), 1_filepr (super file printing acc), case, mase.

#132: UTILITY NO.13. Disk library program (Diskcat), two text editors (less & vix), disk copy programs (autodisk, dcopy), startgem, access, rocp.

#144: UTILITY NO.14. Alarm clock acc, C shell, buffer setup prg., coldboot.tos, display any res DEGAS on any res monitor, script for DEGAS slide show, harddisk auto boot, multiple file printer, mouse ed., spelling checker, rambuffr.acc

#145: UTILITY NO.15. ASL (print out multiple documents), GULAM (command line interpreter), HDSCAN (selectively backup hard disk), LABELS (disk label prg), STARTGEM (start GEM prgs from AUTO)

#150: FIRST WORD PRINTER DRIVERS. Printer drivers for 50 different printers for use with First Word.

#152: 3D CONTROL. A PD motion control language desk accesory for creating cybermate animation sequeces with CAD 3D, Version 2.0.

#154: UTILITY NO.16. MODULA-2 Utilities: context2 Modula-2 editor; m2print ("pretty print" program); makefile utility; qcopy (source for disk copier prg); m2proc (displays procedures).

#155: UTILITY NO.17. dcopy20; diskfix; megablit drawing prg; most (view text files); qcopy; quiklbl2 (quick disk labels); ymodem batch accessory.

#162: HARD DISK UTILITIES. (directory count (gets around 40 folder limit); C source to HardDisk directory; supra ver 2.6f utilities; turtule HardDisk backup ver 2.15; add multiple HardDisk to supra.)

#163: EDITOR DISK. PROEDIT by Jerry Cole: programming editor with outline feature; ConTEXT by Don Milne, designed for use with Modula-2.!

#165: LIBRARY PROGRAMS. menu.prg, diskcat v1.3, turtle companion (includes PASCAL source to menu)

#166: UTILITY DISK NO.19. dlii (disk editor), gercopy (musical formater), xutility (multiple formats), modify seek rate (for IBM drives).

#175: ST WRITER TEXT Ver 1.80. English, Spanish, and German versions of the latest TEXT-based version of ST Writer. Includes complete CN docs and several articles.

#176: ST WRITER GEM Ver 2.02. Version 2.52 (ST Writer Elite). English, Spanish, and German versions of the new GEM-based ST Writer. Complete CN docs included.

.#185: DISK UTILITIES. Includes DISKMECH which can analyze copy protection and copy SOME disks, DC Formatter 2.2 which can format disks for Magic Sac, IBM emulators, ST normal and fast read, normal or extended format, or format a boot type disk.

#192: MICROEMACS Ver 3.9 1/4. Latest version of this popular text editor. Includes MicroSPELL spelling checker.

#206: UTILITY DISK No. 20. BOOTUP V2.05 (set screen/text colors on bootup); Epson font editor; fast disk copier; calculator; graphics conversion prgs IFF/SPC, AIM/DEGAS; slide prg for DEGAS, NEO & SPECTRUM.

NOTE: All Current Notes disks are either public domain, or copyrighted but distributed freely to the public (e.g. ST Writer and Neochrome), or shareware products. All disks are pretty much full and programs should all run. In mass copying disks, it is not always possible to detect if a disk copy is bad. If you ever have a problem with a CN disk, therefore, just return it for a free replacement. For a complete listing of the Current Notes library, send a SASE to CN Library, 122 N. Johnson Rd, Sterling, VA 22170.

Disk Prices:

1 - 9 disks: $4 each
10 - 19 disks: $3.80 each
20 - 29 disks: $3.60 each
30 - 39 disks: $3.40 each
40 - 49 disks: $3.20 each
50+ disks: $3.00 each

Shipping & Handling $1/(6 disks) up to a maximum charge of $6.00.

Order from Current Notes Library, 122 N. Johnson Rd., Sterling, VA 22170. $4/disk plus $1/(6 disks) for shipping.

Current Notes ST Library

NEW DISKS FOR APRIL

#229 – EASY DRAW UTILITY DISK. Fonts: (Chicago 7,10,14,18,28,36; Courier 7,10,14,18,28,36; and Calig (7,10,14,18,28,36); Easy Draw Art (18 GEM Pics: addressbk, alphabet, asset_p1, asset–p2, assissi, box_brd, callig, clip–tmp, dailycal, disk_lbl2, hi_tech, line_brd, pd_art_1, pd_art_2, rocky, scrolbrd, swiss, vhs_lbl)

#228 – SUPERCHARGED EASY DRAW SLIDE DEMO (monochrome). A self–running demo of the capabilities provided by Migraph's new Super Charged Easy Draw.

#227 – CASTING D'ENTERPRISES by Propulse. An impressive demo of the animation and graphics capabilities of the ST. This French "film" runs for about 7 1/2 minutes.

#226 – FRACTAL ZOOM VERSION 6.A. This unique program lets you create a variety of fractals both at full screen resolution as well as in a smaller "preview" box. Animation options lets you turn your fractals into a zooming movie. (color)

#225 – BREACH & EMPIRE. 14 additional scenarios for use with BREACH. A collection of maps for EMPIRE players as well as the fixsave.prg which allows owners of older versions of EMPIRE to use the play–by–mail option.

#224 – TOY PROLOG. This language operates exactly like the system described in Programming in Prolog by Clockrin & Mellish. (Note complete docs, but they are in GERMAN!).

#223 – C SOURCE DISK NO. 7. C source programs for ARC.TTP, a C compiler, formatting disks at 11 sectors/track, disk formatting program, code for accessing TNY file formats, and a cross assembler to 6809 CPU–based systems.

#222 – DESK PAK PLUS (Shareware) 10 desk accessories in a single file: clock, calendar, phone book, calculator, appuointments, free ram, note pad, copy file, delete file, desktop.

#221 – UTILITY DISK NO. 22: ARCSHELL Version 1.8; ARC Accessory; DCFORMAT acc.; DISKFREE (speeds up – 10 fold – GEMDOS diskfree() function); FOLDRXXX (takes care of 40 folder limit in TOS); FSELV55 (replacement for GEM file selector box); SUPER BOOT 3.2 (all–in–one type boot program).

#220 – UTILITY DISK NO. 21: YOUR 1ST UTILITY DISK. Micro–Time Alarm Clock, ST Ramdisk and Printer Buffer, Clock/Calendar, ASCII Printout, DeARChiver, Disk Manager, Disk Directory Listing Program, and Accessory Selector and Resolution Setter.

NEW DISKS FOR MARCH

#219: DBMAN DEMO DISK. Demo version of the latest release (Ver 4.0) of dBMAN. Databases limited to a maximum of 20 records.

#218D: PLAY IT. (DS) Programs to input a sound file from ST Replay and output a file that can be played with either of the two player programs provided. Disk includes a collection of ready to play SND files. Here your ST Talk!

#217: MUSIC STUDIO NO. 6. Another 70+ songs for use with Music Studio. Includes PD player to create your own music albums. Works MIDI (C)

#216: MUSIC STUDIO NO. 5. Over 70 new songs for use with Music Studio. PD player to create your own music albums. MIDI (C).

#215D: A.I.M., Ver 2.3 (DS). Atari Image Management System (color or mono). Sophisticated image manipulation program from Germany that lets you perform math on images (can read in NEO and DEGAS pics).

#214: SPECTRUM 512 MOVIE ANIMATION. Imitation of Amiga demo that shows 4 monitor screens at the same time each with a different animated display.

#213: MONO GAME DISK NO. 5. Adventure writing system; Daleks – graphic strategy game; Krabat2 – play chess against the computer; Stocks and Bonds; Eliminator – interesting variation of card game; breakout.acc and reversi.acc.

#212: MONO GAME DISK NO. 4. Spacewar – battle Klingon cruiser; Megaroids – Asteroids clone, Runner (great arcade game!), Squixx (like QIX).

#211: GAME DISK NO. 13 For Younger Kids: 2 music prgs (Kidmusic and Kidpiano); Make your own Mr. Potatoe Head with KidPotato; and KidMixup – display pics that tell a story.

#210: GAME DISK NO. 12 2 vers of Pacman; create jigsaw puzzles from DEGAS pics; drive race car around track; drive car to top of hill in widow maker, make yourself invincible in Time Bandit.

#209: GAME DISK NO. 11. Try your hand at Las Vegas: Poker, Black Jack, Roulette, and Slots. (C).

REVISIONS:

#176: ST WRITER ELITE, Ver. 2.52. Latest version (3/20). Supports multiple printers. English, German, and Spanish. Complete documentation.

#194: VANTERM Version 2.3. New release (3/24) of this super terminal emulation package.

PINFEED DISK LABELS: 2.8" square. $4/100.

Order from Current Notes Library, 122 N. Johnson Rd., Sterling, VA 22170. $4/disk plus $1/(6 disks) for shipping.

CN REGISTERED CLUBS

Members of registered clubs receive CN at a discount rate ($17/year). To registered your club, send in an initial subscription list of 10% of the membership or 6 members whichever is less. For more information, contact Joe Waters, 122 N. Johnson Rd., Sterling, VA 22170.

ALABAMA: HAUG, Levin Soule, 3911 W. Crestview, Huntsville 35816 205-534-1815.
ARKANSAS: LRAA, Keith Steensma, 28 John Hancock Cir, Jacksonville 72076 501-985-2131.
CALIFORNIA: ABACUS, Bill Zinn, PO Box 22212, San Francisco 94122 415-753-8483. LBACE, Lee Curtis, 1667 E. Plymouth St, Long Beach 90805 213-423-2758. SDACE, Tom Briant, PO Box 203076, San Diego 92120 619-224-8975. SMLACE, Mike Jacobson, 608 N. Pierce, Santa Maria 93454 805-925-9390.
CONNECTICUT: Atari User Group of Greater Hartford, 503-B East Center St, Manchester 06040.
ILLINOIS: CIAUG, Robert Handley, 1920 East Croxton Ave, Bloomington 61701-5702 309-828-4661. LACE, Dwight Johnson, PO Box 8788, Waukegan 60079 312-623-9567.
INDIANA: ALIEN, Jeff Coe, PO Box 2953, Gary 46403 219-663-5117. LCC/ST, Karl Werner, Eli Lilly Corp Cntr, Indianapolis 46285 317-276-3020.
IOWA: MAGIC, Gordie Meyer, PO Box 1982, Ames IA 50010 515-232-1252.
KANSAS: FLAG, John Hutchinson, PO Box 3233, Ft Leavenworth 66027 913-651-5631. WACE, Marilyn Merica, 1722 N. Murray, Wichita 67212 316-722-1078.
KENTUCKY: AEL, Don Garr, PO Box 34183, Louisville 40232.
MARYLAND: FACE, Buddy Smallwood, PO Box 2026, Frederick 21701 717-485-4714. MACC, Jim Hill, 8775-C Town & Country Blvd, Ellicott City 21043 301- 461-7556. NAUG, Dana O'Hara, 3475 Manassas Ct, Davidsonville 21035 301-798-0566.
MASSACHUSETTS: ABACUS, Dave Burns, PO Box 1523, Westford 01886 617-937-8046.
MISSOURI: WACO, Les Lynam, PO Box 199, Warrensburg 64093 816-747-2543.
NEW YORK: ACORN, Kathy Scoville, PO Box 23676, Rochester 14692 716-334-5820. RACUG, Richard Bloch, 29 Riverglen Dr., Thiells, NY 10984 914-429-5283.
N. CAROLINA: CAUG, Joe Venturelli, PO Box 240313, Charlotte 28224 704- 366-4320. PTAUG, Hardy Hall, Rt. 9, Box 274C, Reidsville 27320. TCC, Donald Nelson, Rt. 3, Box 760, Hillsborough 27278 919-942-2764.
OHIO: CACE, John Savarda, 5482 Beacon Hill Ct, Seven Hills 44131 216-749-4853.
PENNSYLVANIA: ABE'S ACE, PO Box 2830, Lehigh Valley 18001 BBS 215-759-2683. SAGE, Earl Hill, PO Box 10562, Erie 16514 814-833-4073. SPACE, H. Richard Basso Jr., PO Box 11446, Harrisburg 17108-1446 717-761-3755.
TEXAS: DACE, Rachel Duke, 5902 Preston Oaks Rd, #1005, Dallas 75240 214-3656-4320. DAL-ACE, Rachel Duke, 5902 Preston Oaks Rd, #1005, Dallas 75240 214-404-8569. SALSA, David St. Martin, 3203 Coral Grove Dr, San Antonio 78247 512-496-5635.
VIRGINIA: GRASP, Thomas Marvin, 1420 Yale Ave, Richmond 23224 804-233-6155. STATUS, Buck Maddrey, 5245 Shenstone Circle, Virginia Beach 23455 804-464-2100.
WISCONSIN: PACUS, Randy McSorley, 339 S. Maple St, Kimberly 54136 414-788-1058.

LIST OF ADVERTISERS

ATARI 8-BIT

HARDWARE

130XE	CALL
65XE	CALL
XE GAME SYSTEM	CALL
SX 212 1200BAUD MODEM	89.99
I.C.D.	
PR CONNECTION	59.99
MIO 256K BOARD	189.99
MIO 1 MEG BOARD	299.99
RAMBO XL	39.99
U.S. DOUBLER	29.99
HAPPY DRIVE FOR 1050	119.99
NEWELL 256K UPGRADE	59.99
INSTALLED	89.99
MPP 1150 PRINTER INTERFACE	49.99
PRINTER or MODEM CABLE.	12.99
XETEC PRINTER INTERFACE	39.99
PARROT II SOUND DIGITIZER	49.99
INDUS DOUBLE DENSITY DRIVE	199.99

LANGUAGES

LIGHT SPEED C NEW &EXCITING	34.99
OSS ACTION	49.99
BASIC XL	39.99
BASIC XE	49.99
MAC 65	49.99
ATARI ASSEMBLER EDITOR	39.99
ATARI MACRO ASSEMBLER	39.99
KYAN PASCAL	59.99

WORDPROCESSORS

XLENT'S FIRST WORDPROCESSOR	24.99
ATARI WRITER (CART)	29.99
ATARI WRITER PLUS	39.99
PAPERCLIP	39.99
HOMEPACK	29.99

BUSINESS APPLICATION

SYNCALC	29.99
SYNFILE	29.99
B-GRAPH	29.99
SILENT BUTLER	19.99
ELITE PERSONAL ACCOUNTANT	34.99
TEACHER'S GRADEBOOK	34.99
NEWS STATION	29.99

ENTERTAINMENT

DUNGEONMASTER ST	29.99
POLICE QUEST.....ST	35.99
MAILORDER MONSTERS ...800	14.99
FIGHT NIGHT.....800	14.99
SARACEN.....800	14.99
CROSSWORD.....800	39.99
DARK CASTLE.....ST	34.99
DEFENDER OF THE CROWN...ST	39.99

ATARI ST

HARDWARE

520 ST WITH MONOCHROME.	
WITH COLOR MONITOR	CALL FOR PRICES
1040 ST WITH MONOCHROME	
WITH COLOR MONITOR	
RAM UPGRADE(INSTALLED)	
520 ST 1.0 MEG	179.99
1040 ST 2.5 MEG	CALL
1040 ST 4.0 MEG	CALL
SUPRA HARD DISK 20 MBYTE	549.99
30 MBYTE	CALL
60 MBYTE	CALL
ATARI HARD DISK 20 MBYTE	549.99
ST CABLE RS232C OR CENTRONIC	EACH6.99
MONITOR MASTER	45.99
MAGIC SACK PLUS	129.99
MAGIC SACK ROMS	39.99
1040 JOYSTICK EXTENDER	19.99
ATARI SF354 SINGLE SIDED	139.99
ATARI SF314 DOUBLE SIDED	209.99
FUTURE'S GTS-100 DOUBLE SIDED FOR ST	219.99
I.B. DRIVE 5 1/4 DRIVE	224.99
MOUSE - TRACK	29.99

LANGUAGES

GFA BASIC SUPPORTS GEM WELL	49.99
GFA BASIC COMPILER	49.99
MEGAMAX C	159.99
TRUE BASIC	52.99

PRINTER UTILITIES

WORD WRITER TIME WORKS	49.99
WORD PERFECT	219.99
TEXT PRO	39.99
PRINTMASTER PLUS	29.99
LABEL MASTER	29.99
CERTIFICATE MAKER	35.99
BUSNIESS CARD MAKER	39.99
REGENT WORD II	59.99
PUBLISHING PARTNER	69.99

DATA BASES

DATA MANAGERTIME WORKS	49.99
SUPER BASE..*NEW*	89.99
REGENT BASE	59.99
DB MAN	89.99
BASE II	49.99
INVENTORY MASTER	59.99

ST DISK LIBRARY

CURRENT NOTES LIBRARY CARRIED

VISIT OUR 2000 SQ. FOOT SHOWROOM OR CALL FOR INFORMATION ON PRODUCT NOT LISTED

OVER 1400 PRODUCTS FOR YOUR ATARI COMPUTERS
OPEN MONDAY THROUGH SATURDAY 10 A.M. TO 7 P.M.

(703)494-3444

METRO 643-1729

L&Y ELECTRONICS INC.
13644C JEFFERSON DAVIS HWY.
WOODBRIDGE, VIRGINIA 22191

PRICES ARE SUBJECT TO CHANGE PLEASE ASK CURRENT PRICE

IN STOCK ONLY- SALE ENDS APRIL 30, 1988

ATARI SERVICE
AUTHORIZED SINCE 1982

NO CREDIT CARD SURCHARGE
ACCEPTED MASTER CHARGE,VISA, CHOICE

WordPerfect® in Every Way

If you're looking for software that takes full advantage of your Atari's capabilities while providing an extensive range of features, look no further.

WordPerfect offers the power you need with features like Columns, Indexing, Merge, Macros, Speller, and Thesaurus. You'll find them useful for everything from simple memos to complex reports. All features are easily accessed using the Atari mouse and pull-down menus, or WordPerfect's standard keystrokes.

WordPerfect's GEM-based design taps the Atari's resources with ready access to desktop accessories, full color adjustment for color monitors, a definable mouse pointer and cursor, and the ability to move and size up to four windows. And WordPerfect is written in assembly language to take full advantage of the Atari's speed.

WordPerfect Corporation offers Atari users the stability of a proven product, produced by a reliable leader in software manufacturing. With full documentation, toll-free customer support, and free software upgrades, your investment will be profitable for years to come.

Expand your options with WordPerfect—the most powerful word processor you can buy for the Atari ST. For a demonstration, contact your local dealer.

WordPerfect
CORPORATION
1555 N. Technology Way · Orem, UT 84057
Tel: (801) 225-5000 · Telex: 820618 · FAX: (801) 227-4288